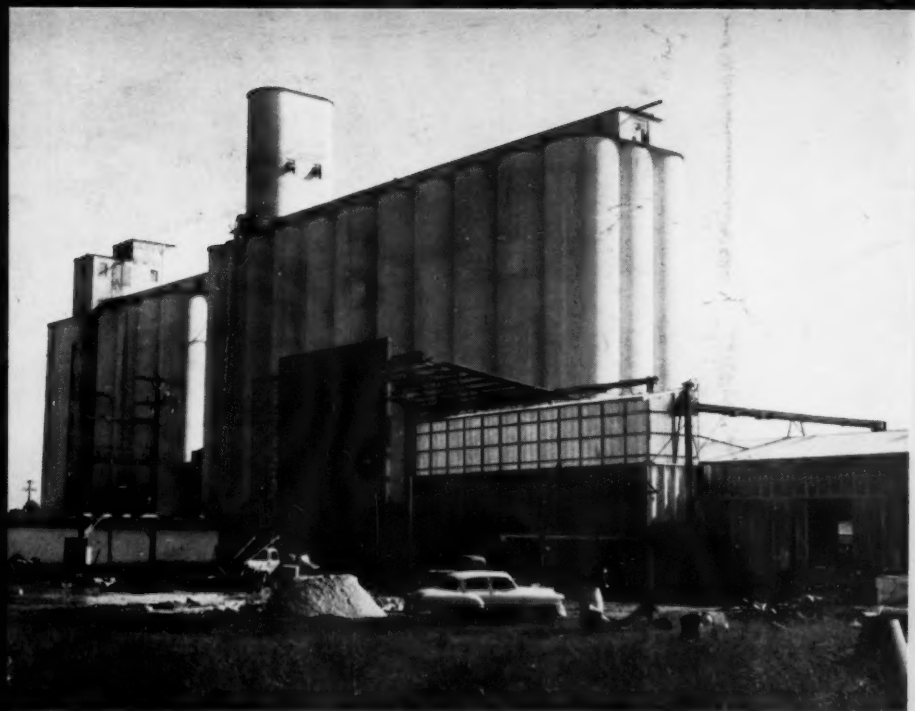
THE Soybean Digest



Big Expansion in Soybeans on the East Coast

CHARACTERISTIC of the expansion taking place soybeanwise on the East Coast is this 1¼-million-bushel elevator of Harper & Bowers, and the processing plant of Southern Soya Corp. in the early stages of erection at Estill, S. C. Processing plant is a lock and key job by French.

SOUTHEAST'S largest soybean grower is A. D. Swindel, shown here in his office on his farm near Pantego, N. C., with his daughter and secretary, Mrs. Fernie Laughinghouse. Mr. Swindel started as a hired man, has been clearing swampland for years, planting it to crops. He now farms about 10,000 acres, half in soybeans.

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VOLUME 20 • NUMBER 2

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Official Publication of American Soybean Association and Soybean Council of America, Inc.

HUDSON, IOWA

Vol. 20 **December, 1959** **No. 2**

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THE SOYBEAN DIGEST

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Business, publication and circulation, Hudson, Iowa. TAylor 5-3296.

Advertising, Ewing Hutchison Co., 35 E. Wacker Drive, Chicago 1, Ill., ANdover 3-3042.

Published on the 10th of each month at Hudson, Iowa, by the American Soybean Association. Entered as second class matter Nov. 20, 1940, at the post office at Hudson, Iowa, under the Act of Mar. 3, 1879.

Forms close on 20th of month preceding.

Subscription rates—$3 per year; Canada and other members of the Pan American Union, $3.50, other foreign, $4. Single copies 30c. Subscriptions accepted from members only.

Refer all address changes, undeliverable copies and subscriptions to the Soybean Digest, Hudson, Iowa.

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Objectives of the American Soybean Association include the bringing together of all persons interested in the production, distribution and utilization of soybeans; the collection and dissemination of the best available information relating to both the practical and scientific phases of the problems of increased yields coupled with lessened costs; the safeguarding of production against diseases and insect pests; the promotion of the development of new varieties; the encouragement of the interest of federal and state governments and experiment stations; and the rendering of all possible services to the members of the Association.

EDITOR'S DESK

. . . By GEO. M. STRAYER

WILL MEAN CHANGES IN EXPORTS The Japanese Ministry of Health and Welfare, according to all reports received up to this writing, invoked the ban on imports of all U. S. soybeans carrying over .07% morning-glory seed content. If invoked this will mean recleaning some lots of U. S. soybeans on arrival in Japan, and before release to food makers or oil crushers. It will mean changes in the basis of purchases destined for Japan to insure meeting this requirement.

Unquestionably the ruling of the Japanese Ministry of Health and Welfare is unsound, and without basis of adequate research findings. Our major problem is that we do not have adequate research findings to disprove the Japanese contention. Morning-glory seed has never been considered deleterious, poisonous, or otherwise a factor in food or feed products in the U. S. Therefore no research work has been done on it.

The answer is shipment of clean soybeans. It means recleaning at port or at point of origin. The ruling will force us to do what we should have been doing all the time—selling clean, high quality products. It will mean higher priced soybeans to Japanese buyers. But it will—or should—compensate by supplying more usable product per ton for oil crushing or foods manufacture, hence the cost per usable unit of protein or oil may not be as much as feared. Cooperation of country shippers, terminal operators, port elevators, exporters, Japanese import firms and users should result in a more healthy export program than ever before.

HERE'S A CHRISTMAS GIFT IDEA If you believe the American Soybean Association program through a period of years has been sound—if you believe that development of export markets for soybeans and soybean products to the extent of two-fifths of our crop in terms of oil has been worthwhile to you—if you believe that the soybean crop has been a partial salvation of our farm and acreage control programs on other crops—if you believe the information made available to you on the pages of the Soybean Digest each month is worthwhile—then why don't you show your appreciation to your farm tenant, your landlord, your neighbor down the road or your friends, by taking a membership and subscription for him?

At only $3 for the year what can you buy that is so cheap and yet so valuable? What gift can you give which will be more appreciated? And which will be a constant reminder of you? And which will enable your Association to do an even better job of promoting your crop.

Send your gift subscriptions to us now. A special Christmas Gift announcement will be forwarded, bearing your name. Be sure to give all necessary postal address details. With twice as many members and subscribers we will have the finances to do twice as much work!

CCC STOCKS SHOULD ALL BE SOLD Sales policies on CCC stocks of soybeans take on less significance each week, as stocks continue to be sold. Previous announcement intended to insulate CCC stocks from the market during the harvest period by pricing them well above the support price levels failed to do so, and a good portion of the CCC stocks of 1958 crop soybeans has moved to processors and into export channels. While such movements may have had some depressing effect on the market during harvest the sales price has continued to stay well above support and the stocks moved will not be hanging over the market later, as had been expected.

Before Jan. 1 the sales policy from that date onward will be announced. USDA officials have agreed to confer with your Association representatives before a decision is made. Let's hope the decision will be as wise as that made in September, and that it will work out as well. If we work at it we can empty the bins before the 1960 crop movement begins. No finer tribute to the soybean crop can be paid than the sale and usage of the two largest crops in the history in two consecutive two largest crops in history in consecutive years!

CALLS FOR CONTINUED EFFORT Soybeans are one of three American Agricultural Commodities being shown in the U. S. exhibit at the World Agricultural Fair starting in mid-December at New Delhi, India. The Soybean Council, in conjunction with Foreign Agricultural Service of the United States Department of Agriculture, is using this opportunity to show the possibilities of using U. S. soybean oil and soy protein in feeding the countries of Asia. Included will be a model processing plant, oil refinery and margarine and shortening plant built by the Girdler Process Division, with food products used in U. S., European and Asiatic economies.

No other area of the world has so many undernourished people as do the Asiatic countries. Some way will be found to help them secure the fat and the protein they need to more adequately fortify their diets. After the Fair exhibits there must be sales calls and continued promotional efforts if we are to capitalize on the market potentials. The job has only been started.

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Southeastern soybean growing states.

Next big area of soybean expansion?

Soybeans on the East Coast

By KENT PELLETT
Managing Editor, the Soybean Digest
Photos by the author.

THE EAST COAST is on the march soybeanwise. From the Delmarva Peninsula south to Georgia the soybean crop along the Coast has been expanding rapidly—and now may be on the eve of explosive growth.

In 10 years the six states of Delaware, Maryland, Virginia, North and South Carolina and Georgia have tripled their production of soybeans —from 10 million bushels in 1950 to 31 million bushels indicated this year. Acreagewise, the increase has been not quite as great, from 667,000 to 1,594,000 in 10 years, which means that farmers are growing more beans per acre as well as growing more acres.

Total production on the East Coast is still not great—it is substantially less than the crop grown by any one of several Midwest or Midsouth states. Ohio, for instance, stands seventh in the nation and is turning out 37 million bushels of soybeans this year.

But it must be remembered that the area of soybean production on the Coast is not large. It is concentrated largely on the flat lands of the coastal plain close to the Atlantic Ocean. At no place is the main soybean growing belt more than 100 miles wide.

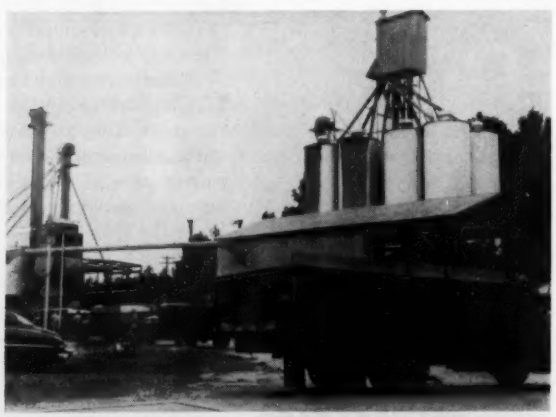
In some places soybean production is already about as concentrated as in the main soybelt, on the Delmarva Peninsula for instance. Out on the flat, Sassafras sandy loam lands of the peninsula, which is divided between the three states of Delaware, Maryland and Virginia, you see field after field of very fine soybeans. Many farmers have been growing soybeans for a long period of years and they are doing as good a job of soybean production as you can find anywhere. Many of these men are small producers, but there are large ones, too, who number their soybean acres by the hundreds and even thousands.

The reasons for the growth of the soybean crop in recent years are not hard to find. One is the closeness of the export market, which has also shown great growth, from 40 million bushels of soybeans to 110 million bushels in the past 5 years. The ports of Norfolk, Baltimore, and Philadelphia are nearby.

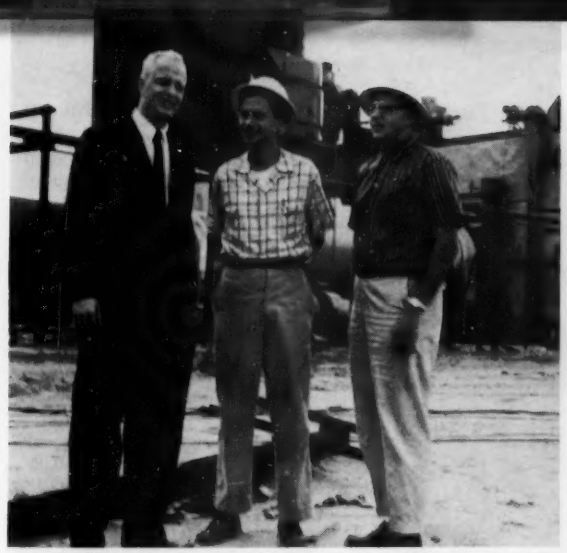
Poultry Industry

Another kicker for the soybean acreage has been the rapidly growing poultry industry on the East Coast with its big demand for soybean oil meal. The Delmarva poultrymen have been pioneers in the broiler business, just as its farmers were among the early soybean producers.

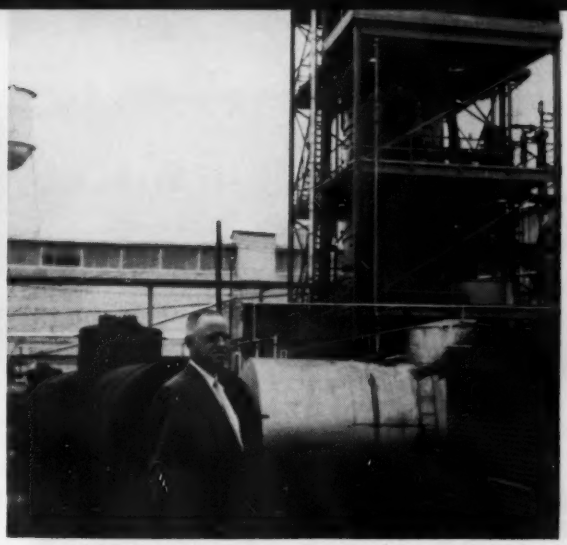
GRAIN HANDLERS W. B. Nock and James T. Sturgis, of the firm of Nock & Sturgis, Snow Hill, Md. About 80% of the soybeans grown in the area are exported. Both men have been longtime members of the American Soybean Association.



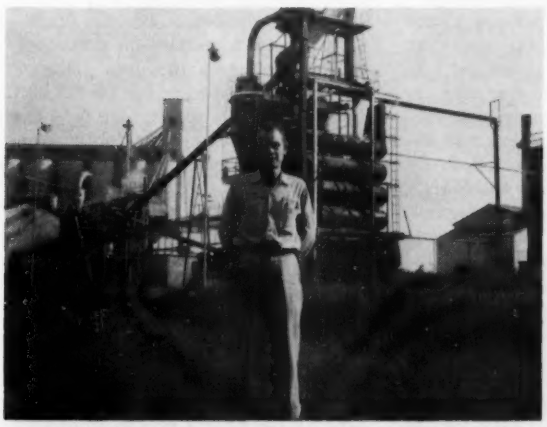
RUN of 1959-crop corn at Nansemond Grain & Supply Corp., Driver, Va., Sept. 11. Twelve truckloads of corn were waiting to unload. This is also a shipping point for soybeans. J. F. Gutelius is president.



CARGILL men at Norfolk, Va. Left to right, Tom Veblen, processing account manager, Tom Roger, maintenance, and Hank Sandrig, plant manager, in front of Cargill's new processing plant housing Blaw-Knox Rotocel. Cargill operates both grain and oil departments at Norfolk.



MANAGER of extraction plant Bill Melvin and the 400-ton-per-day French plant that was about ready to go on stream Sept. 15 for the Planters Cotton Oil & Fertilizer Co. at Rocky Mount, N. C. Davidson-Kennedy & Associates engineered the plant.



OIL MILL Superintendent Everett Bullard and the 80-ton Anderson extraction plant which was just completing its first year's run on soybeans for Selma, N. C., Soybean Corp., when the photo was taken. 250,000-bushel grain elevator of Gurley Milling Co. is in background.

PART of million-bushel soybean storage of Ralston Purina Co. at Raleigh, N. C. Purina has a 300-ton French extractor and is retaining the Anderson Expeller plant for cottonseed operations.

Close to the markets of the big eastern cities, Delmarva poultrymen have been in the business of producing broiler-fryer chickens for market longer than anybody else. They command a premium for their product from poultry dressing and freezing plants.

But the big growth now in the poultry industry is taking place in the Carolinas and Georgia. Poultry is called North Carolina's fastest growing farm enterprise. And the production of broilers in Georgia is more than double that of North Carolina.

The real period of growth of the soybean crop on the East Coast may be just ahead—the crop and industry may be on the eve of a period of expansion that will push them into a much larger acreage.

There are several reasons for this, including the outlook for a further increase in exports of soybeans this coming year, the sudden blossoming out of solvent extraction processing plants on the East Coast, and a land drainage and improvement project under way in northeastern North Carolina.

Expert thinking in USDA is that soybean exports during the coming year will total 125 million bushels compared to 110 million for the year just closed. This won't hurt the demand for the crop along the Coast.

New Processing Plants

A number of processors equipped with solvent plants are now bidding against each other for the East Coast crop.

A substantial tonnage of soybeans was processed by East Coast cottonseed plants using screw press and hydraulic equipment during and shortly after World War II. But they could not readily compete with solvent extraction equipment that was installed in the main soybean growing areas, and most East Coast beans were eventually absorbed into the export market.

Townsends, Inc., have been processing beans by solvent extraction equipment since 1950 at Millsboro, Del., and providing a good market for Delmarva soybean producers. And Buckeye Cellulose Corp. at Augusta, Ga., converted to the extraction process some years ago. It is

TIMBER land being cleared in the area between Engelhard and Belhaven, N. C. Trees being cleared include pine, cypress and gum. Sometimes the sale of the timber about pays for the clearing.

the largest oil mill operation in that part of the country. Central Soya Co., Inc., at Chattanooga, Tenn., has been drawing beans from South Carolina and Georgia.

One of the older soybean processing plants in the area is the New Bern Oil & Fertilizer Co., New Bern, N. C. The firm is operating with screw press equipment and has a storage capacity of 500,000 bushels.

The Selma Soybean Corp., at Selma, N. C., was just finishing its first year's run on soybeans when I was there in September. When R. G. Gurley, the manager, shipped in a 100-ton-daily Anderson unit a year ago, it was said to be the first solvent extraction plant in North Carolina. Since then, two extraction plants have been added in North Carolina and two in South Carolina in addition to Cargill's big plant at Norfolk, Va.! All are in operation, or soon will be, on the 1959 soybean crop.

Cargill's plant includes a Blaw-Knox Rotocel, and present annual capacity of the plant is 7 million bushels. The firm has increased its Norfolk storage to 4½ million bushels on the ocean front. Cargill has three marine towers on the dock and can load out 600 tons per hour. Cargill's southeastern regional manager at Norfolk is B. S. Jaffray.

Cargill has moved its grain merchandising headquarters from Baltimore, Md., to Seaford, Del., on the peninsula.

Ralston Purina Co. bought the Buckeye Cellulose Corp. plant at Raleigh, N. C., last year. J. T. Wright, a former Buckeye man, is the manager. Purina has a new 300-ton French extractor which was designed and partially installed by Buckeye engineers before the change in ownership. The firm is retaining its Anderson Expeller plant for cottonseed operations. Purina has installed two steel storage tanks which have increased storage capacity by 1 million bushels at the Raleigh plant.

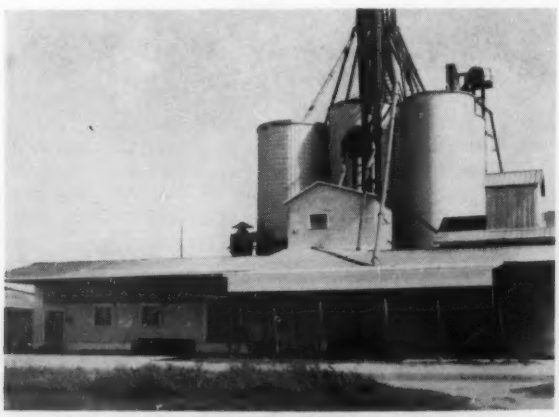
Planters Cotton Oil & Fertilizer Co., Rocky Mount, N. C., have dispensed with their hydraulic equipment and installed a 400-ton-daily capacity French extractor. Their operation is primarily cottonseed but they will crush soybeans to fill out their season. Planters crushed a considerable quantity of soybeans until about 1950 when the competition of the solvent units became too tough and the export market began taking the beans. They have been waiting for a favorable moment to get back into soybean operations and have been encouraged by the current expansion in Carolina production. Planters have storage for one-half million bushels and plan to add another half million.

Gurley at Selma, N. C., has increased storage capacity by 250,000 bushels, to 500,000 this year.

Hartsville Oil Mill, Hartsville, S. C., has also installed a solvent plant during the year.

Southern Soya Corp., Estill, S. C., built a new processing plant of 150 tons daily capacity. This is a lock and key job by French of a new type of equipment, and was slated to go into operation about Dec. 1. The new plant is a Harper & Bowers operation. The firm carries on a number of enterprises in the area. Harper & Bowers has storage for 1¼ million bushels at Estill and storage for 700,000 bushels elsewhere in South Carolina. R. A. Denman, who came to Southern Soya Corp. from Buckeye, is general manager of the processing operation.

With all the above firms competing for soybeans in addition to those operating with screw press equipment, there is bound to be a better market. This has already materialized. In late October some East Coast bids on November beans were 8¢ and 10¢ over Chicago compared with 3¢ to 5¢ under Chicago a year ago, and predictions were being made that this type of market will



R. L. GIBBS & Co. 125,000-bushel-capacity elevator at Engelhard, N. C., which is just 3 feet above sea level. Located on Pamlico Sound, all soybeans move by truck and boat. Land clearing and drainage projects are in progress in the area.

FEED plant and storage elevator of Tom Sawyer & Son, Belcross, N. C., grower and handler. You see quite a little soybean storage in the Carolinas. Most has been built in recent years.

stimulate an expansion of soybean acreage next year.

N. C. Land Projects

An eventual booster for soybean production in North Carolina is the land development now under way in the general area around Elizabeth City. Here some very large acreages are being cleared of timber, drained and put in shape for crops—I heard more than one project mentioned that runs into a good many thousand acres.

Much of this land appears destined to grow soybeans, as soybeans and corn are already the big crops in the area. This is fertile, black flat land that appears to be ideal for soybean production.

R. L. Gibbs, R. L. Gibbs & Co., soybean buyer at Engelhard, N. C., told me that all the land in the area has to be drained before it can be farmed. Engelhard is only 3 feet above sea level. The timber being harvested includes pine, cypress, juniper and gum.

The area between Engelhard and Belhaven appears to be mostly drained swamp land with ditches and canals running all though it, and with fishing boats in many of the canals. You see many bean fields along the highway between the two towns. Some are weedy but most of them clean.

H. V. Latham, implement dealer and pioneer seedsman at Belhaven, N. C., said a large acreage is being cleared around Belhaven. His son-in-law, L. M. Dilday, is farming 800 acres in the vicinity and is in the process of clearing an additional 300 acres. He is growing a sizable acreage of soybeans.

A. D. Swindel, one of the nation's larger soybean growers at Pantego, N. C., says considerable land development is taking place in Washington, Beaufort and Hyde Counties. Twice as much land is under cultivation as there was 10 years ago. He has been clearing and draining land for many years himself, and now has about 10,000 acres under cultivation, about half in soybeans, half in corn.

There are some very large soybean growers in northeastern North Carolina. J. Braxton Bell, also at Pantego., N. C., farms between 5,000 and 6,000 acres, much of it in soybeans.

Wright, at Raleigh, N. C., writes: "I personally feel there is a great potential for soybean production in the Carolina Piedmont counties (farther away from the Coast). A fair number of farmers in this area have already proven a careful choice of land will produce good yields of excellent quality beans."

I was told that the lack of available storage is a big handicap in the area, particularly on the Delmarva Peninsula. Dr. John Hammond, O. A. Newton & Son Co., Bridgeville, Del., said a critical disadvantage in Delmarva is lack of storage space for either meal or beans. You see very little in the way of storage facilities at any level.

Cargill, Inc., and Continental Grain Corp. do have substantial storage facilities at Norfolk, and Cargill has now provided 610,000 bushels storage at Seaford.

Grain handling firms do offer some storage facilities in Virginia, and storage space is on the increase in the Carolinas. Commercial storage capacity in North Carolina has increased from 7.7 million bushels in 1950 to 17.8 million bushels in 1958. And off-farm storage capacity for grain and seed in South Carolina increased from less than 2 million bushels in 1948 to just under 9 million in 1959, according to a state report.

But in general everything goes to market from the harvester. This is true of both corn and soybeans. Farmers have some crib space but have gotten out of the habit of using it in recent years.

Geo. E. Spain, North Carolina State College agronomy specialist at Raleigh, reports North Carolina is in fair position to handle this year's crop, due to the increase in storage, the fact that the new solvent plants will turn over the beans more rapidly, and the movement into export.

(Continued in the January issue)

UNLOADING corn at the A. D. Swindel farm elevator near Pantego, N. C. Swindel grows 5,000 acres of soybeans on drained swamp land.

GROWTH OF SOYBEAN PRODUCTION IN EAST COAST STATES (1,000 bu.)

	1950	1958	1959
Delaware	882	3,622	3,674
Maryland	1,139	4,246	4,200
Virginia	2,888	6,052	5,817
North Carolina	4,752	10,212	10,971
South Carolina	744	5,611	6,060
Georgia	220	1,125	1,189
Total	10,625	30,868	31,911

GROWTH OF SOYBEAN ACREAGE (1,000 acres)

	1950	1958	1959
Delaware	63	161	167
Maryland	67	193	200
Virginia	152	269	277
North Carolina	297	444	477
South Carolina	62	362	391
Georgia	26	90	82
Total	667	1,519	1,594

MANAGER R. A. Denman, Southern Soya Corp., Estill, S. C., took charge of the new operation last summer. Denman, an old oil man, is a former Buckeye employee.

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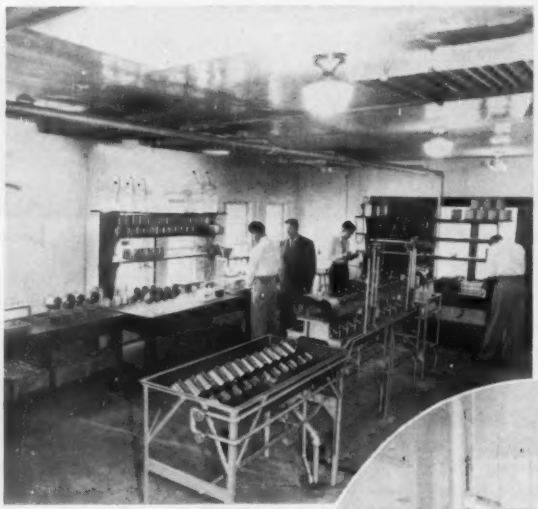

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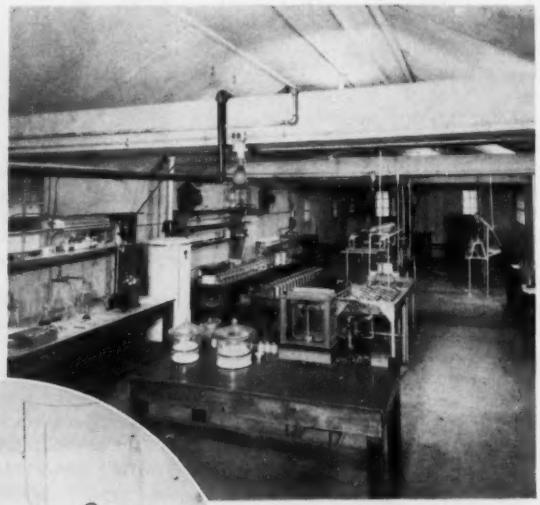

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THE NEWS IN BRIEF

THE CROP, MARKETS AND OTHER ITEMS OF NOTE

Size of 1959-60 Crush

The big question about the size of the 1959-60 soybean crush depends on whether it is based on demand for meal, which is high, or on oil alone, which is lower in terms of the total than meal, in the view of the U. S. Department of Agriculture experts. (See Porter Hedge's column page 34).

Bache & Co., Chicago broker, believes the size of the 1959-60 crush depends on how large an inventory of oil the soybean processors are willing to carry. "If they decide to reduce the rate of processing to decrease the supply of vegetable oil and conversely to increase the price of soybean meal in order to obtain a more profitable margin, then the ultimate consumption of soybeans will decrease . . . **We expect some adjustment to be made by these operators in order to maintain a modest level of profit.**"

Quoting Trade News Service, New York: "It is entirely possible that Washington will take steps . . . to help (hog and poultry) farmers. The greatest help would come from relatively lower prices for protein meals. For this to materialize, it means that the oils price structure must be hiked substantially if there is to be any noteworthy lowering in the meal price."

TNS calls the relative cheapness of U. S. soybean oil an important stabilizing factor. "This oil is cheaper than any other in world centers, and this unquestionably will result in a step-up in dollar exports."

T. A. Hieronymus, University of Illinois grain marketing specialist, thinks the statistics of the present situation may add up to lower soybean prices before the marketing year is out, depending in large part on action taken by Commodity Credit Corp. on beans it is holding.

Prof. Hieronymus estimates a total supply of 422 million bushels of soybeans as the maximum available for domestic crushing in 1959-60, 20 million above last year's actual crush. "It appears that the meal from a crush of 422 million bushels can be used at about $52 a ton, bulk Decatur. It is currently selling for $58. Eight-cent oil and $52 meal make soybeans worth $1.90 to Illinois farmers if we figure a relatively narrow processing margin." Hieronymus sees "no reasonable basis" for expecting a price increase in soybean oil which would permit a lower meal price.

Quality of 1959 Crop Is Higher

The average quality of the 1959 soybean crop is as good or a little better than last year or the 1957 crop on the basis of inspected receipts during October, USDA's Agricultural Marketing Service reports. "Of the total receipts 73% graded No. 2 or better this October compared with 70% a year earlier, 72% in October 1957 and 66% the 5-year average," AMS reports. "The percentage testing No. 2 or better was especially high in the large producing areas of the Midwest. This was in part offset by relatively large percentages grading No. 3 in the southeastern area. The total inspected during October was 95 million bushels this year as against 129 million last year and 94 million in October 1957."

E. A. Shaw, AMS board of grain supervisors, Chicago, writes: "Strange as it may seem, total damage rather than foreign material is the troublesome grading factor in soybeans harvested this season."

It appears that the soybean crop in the main has come to market in good shape in spite of an adverse harvest season. Oil content is higher than it was last year. Foreign material is high in some areas but not as prevalent as the determining grade factor as in 1958. Moisture is a little higher but is not a dominant grading factor. But there is more variability in the crop, even from the same area or source of supply than was true last year. (See 1959 crop summary on page 26.)

Merrill Lynch, Pierce, Fenner & Smith notes that the Census Bureau

crushing report reveals an oil yield of 11.2 pounds per bushel on the October crush compared with last season's average of 10.6. "The trade expects that high oil yields will prevail throughout the season, with a resulting increase in oil production over the 10.6 average of last year."

Not Many Soybeans Are Moving

With farmers probably holding fewer soybeans than they were at this time a year ago, those storing are bullish at the present time, and most will hold at least until after Jan. 1, our reports indicate. Archer-Daniels-Midland Co. calls country offerings "nonexistent." J. E. Johnson, Champaign, Ill., writes **some elevators in his area have bought 25% more soybeans than they had bought at the same time last year.**

Some Soybeans Were Still In the Field

As of Dec. 1 there were scattered fields of unharvested soybeans in northern areas with 5% of the crop still out in Iowa and Minnesota. Harvest in the Upper Mississippi Valley was at a virtual standstill in late November, according to Weather Bureau reports, but progress was fair in the Ohio Valley and rapid in the southern High Plains, lower Mississippi Valley and the Southeast.

Canadian Soybean Crop

The Canadian 1959 soybean crop is now estimated at 6.8 million bushels compared with 6.6 million last year. (See the world crop report on page 27.)

Brazil expects to produce 7 million bushels of soybeans in 1960, according to USDA's Foregin Agricultural Service. Output was 5.5 million bushels in 1959 and 4.6 million in 1958. Producers are generally enthusiastic and planting intentions are high, especially in Rio Grande do Sul where 90% of Brazil's soybeans are produced.

Export Reports on Fats and Oils

During November the U. S. Department of Agriculture announced issuance of a purchase authorization to Pakistan for $1.7 million worth (approximately 5,600 metric tons) of soybean or cottonseed oil.

USDA announced issuance of an authorization and amendment of three authorizations to Spain to finance purchase of a total of $16.7 million worth of U. S. soybean or cottonseed oil. Authorization No. 17-70 provides for purchase of $14.6 million worth (about 48,600 metric tons) of soybean or cottonseed oil in bulk, bags, or drums. The other three authorizations are for comparatively small quantities. Sales contracts under all four authorizations made between Nov. 19, 1959, and May 31, 1960, will be eligible for financing.

USDA announced issuance of an authorization to the United Arab Republic to finance the purchase of $500,000 worth (about 2,100 metric tons) of soybean or cottonseed oil from U. S. suppliers under P. L. 480. Sales contracts made between Dec. 2, 1959, and Jan. 30, 1960, will be eligible for financing.

International Cooperation Administration issued purchase authorization to France for $3 million worth of soybeans, and to Vietnam for $50,000 worth of vegetable oils and fats including margarine.

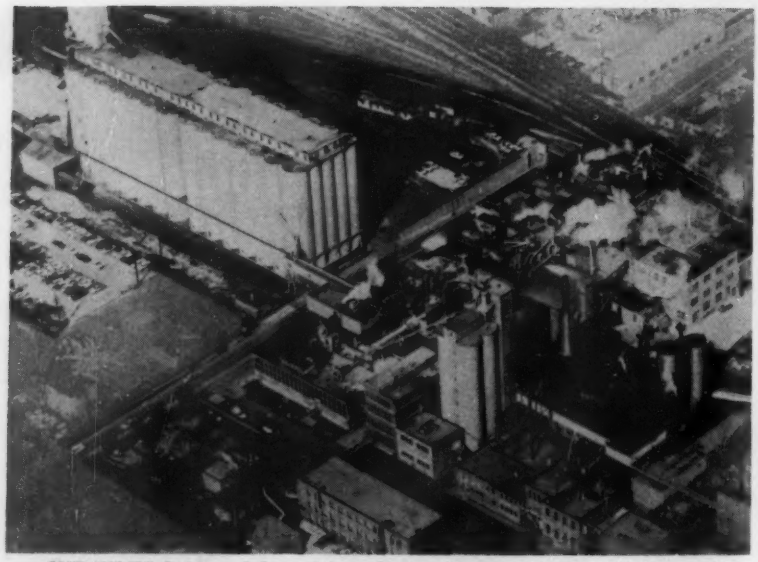
USDA announced that active purchase authorizations for soybean and/or cottonseed oil under P. L. 480 under which purchases by foreign buyers had not been completed as of Nov. 4 totaled as follows: Argentina 84,000 metric tons, Pakistan 15,600 metric tons and Poland 7,200 metric tons.

Usage of Soybean Oil, Meal

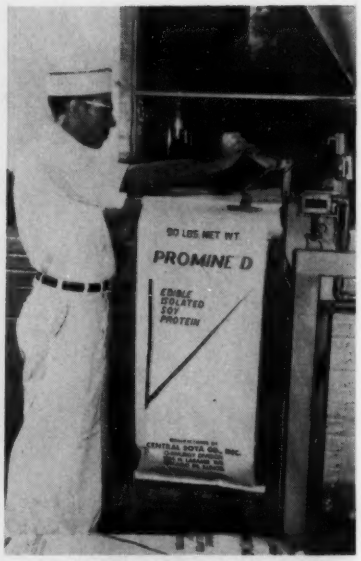
A total of 96% of soybean oil meal was used in livestock feed during the crop year 1958-59, the National Soybean Processors Association reports. This is a little lower than the 97.3% used in livestock feed in 1957-58 and 96.2% so used in 1956-57.

Main reason for the drop in percentage used by livestock is increased exports. A total of 3.9% of U. S. soybean meal was exported in 1958-59 compared to 2.5% in 1957-58 and 3.5% in 1956-57. Industrial usage was .1% in 1958-59 and .2% in 1957-58.

Usage of soybean oil in edible products was 92.2% of the total in 1958-59 compared to 89.5% in 1957-58 and 82.5% in 1956-57. Industrial usage was 7.8% in 1958-59, 10.5% in 1957-58, and 17.5% in 1956-57.



CHEMURGY division of Central Soya Co. in Chicago. Light brick building at far right houses the recently completed Promine plant.



PROMINE is bagged by Herbert Thompson in the new plant.

Dale W. McMillen

Central Soya Co. Marks 25 Years of Progress

WHILE THE Russians have been working on sputniks and moon rockets to conquer space, an aggressive young organization here in the United States, Central Soya Co., has been working on a product to help overcome the world's protein hunger and defeat tyranny—Promine, a commercial isolated soya food protein.

The opening of the new Promine plant Oct. 27 marked the latest milepost in the 25-year story of progress by Central Soya since it was founded in 1934. Officials of the company are very optimistic about their new product and the possibilities of uses are unlimited. Dr. Edwin Meyer, chemurgy research director, stated, "If we could convert the entire soybean crop into Promine it would supply our nation with enough protein for one year to maintain our present high protein diets."

In the heart of the depression, a 54-year-old man had faith enough in himself and America to start Central Soya Co. This man, Dale W. McMillen, "Mr. Mac," has been active in the company policy to this day and will celebrate his 80th birthday soon. Little did "Mr. Mac" realize that in just 25 years Central Soya Co. would rank 181st in gross sales and fourth in sales per employee among the country's 500 largest industrial corporations.

Dedication Ceremony

In a special ceremony at 1825 N. Laramie in Chicago, Harold W. McMillen, Central Soya board chairman, dedicated the plant to "the world's growing population, for whom protein provides the building blocks of good nutrition and health."

He called the efficient new production plant, which features the latest in sanitary practices, a "further development of the company's continuing research and pilot plant work on edible proteins."

Before the ceremony the group of visitors were treated to coffee and a variety of products made from Promine. Samples of an all vegetable "Hot Dog" were dispensed.

What Is Promine?

Promine is isolated from the soybean and can be added to food products to build up their nutritional value and improve general physical characteristics without changing taste, texture or appearance. It is almost completely devoid of carbohydrates, fat and fiber.

Examples of present-day foods being improved by the addition of Promine include many baby foods, cereals, bakery products, confections, pressure dispensed whipped toppings, many types of prepared meats, and other high protein foods.

Promine, a complete protein, also makes possible the creation and manufacture of entirely new types of convenient prepared foods with controlled composition. Several manufacturers have also expressed interest in using Promine to boost protein intake in animal feeds.

"On a per-unit of protein basis, Promine is a very economical protein product for use in foods," Harold McMillen said. "It takes less Promine to do the job because nonprotein materials have been removed."

McMillen called attention to the world's "exploding population" and predicted that "proteins such as Promine which come from our research laboratories may be the answer to

the crisis posed by the population increase. In the United States alone," he said, "population is expected to double in the next 40 years."

As a keystone in human nutrition, Promine offers possibilities for economically upgrading diets in the United States. Its potential use is substantial in other countries, where the average man often does not get even the minimum requirement of 65-70 grams of protein per day. "Promine lends itself to overseas use," he observed, "because it not only can be added to native foods without changing the taste, but is inexpensive to ship and does not require refrigeration."

Promine Research

Basic research by Central Soya was begun and continually pursued to develop the commercial isolation of a food grade soya protein in 1949.

The chemurgy division's research staff devotes its energies to making available in commercial form the various natural and valuable constituents of the soybean . . . thus providing new food and industrial outlets for the second largest cash crop produced by farmers.

The overall research program dates back to 1934 and includes the development of special products for edible and industrial uses. Its first major achievement was the commercial isolation of soya protein for use as an adhesive in the paper industry. In 1937 chemurgy produced the first isolated vegetable protein ever to be

Harold W. McMillen

Edwin W. Meyer

manufactured on a commercial scale. Called "Alpha" protein, it found enthusiastic acceptance in the paper trade as an adhesive in pigment coated paper.

Since then, research has produced new, tailored proteins, each possessing unique qualities. For example, a special grade of Alpha protein permits sharper reproductions and lower ink consumption on offset paper, thereby helping manufacturer and user alike to meet today's competitive markets. Over the years the research and development program has been working on new and improved products based on soybean derivatives such as soya flour and grits and soya lecithin.

ASA's PRESIDENT Carle G. Simcox, Assumption, Ill., (left) shakes hands with Central Soya's founder, Dale W. McMillen, at the opening of the firms' Promine plant in Chicago Oct. 27.

Examples of these new products include flours such as Soyafluff, Soyalose and Soyarich, which are used in bakery products, breakfast foods, prepared mixes, margarine, macaroni, and infant foods, to add protein and promote fat emulsification.

Spraysoy, Prosein, and Prosoy have been developed for industrial use in plywood glue, wallpaper coating, and in light duty abrasives.

Protein supplements for livestock feed are also derived from the soybean and help to make possible efficient production of meat, milk and eggs.

Lecithin is a special refined product having both industrial and food uses. It lengthens shelf life of paint, inhibits gum formation in petroleum products, acts as a mold release agent in molding rubber and plastic products, and is used in printing inks to improve color and reduce the possibility of ink solidifying while stored.

In the food field, lecithin is used in margarine as an anti-spattering agent. It also aids the make-out qualities of prepared mixes, and when used in instant drinks improves their dispersibility and solubility.

The pharmaceutical field uses special lecithin products in many injectables such as penicillin, streptomycin, and special intravenous solutions. A granular type RG Lecithin is being used as an aid in lowering blood cholesterol.

This much and more has come from a long-range program of research. Now, what of the future?

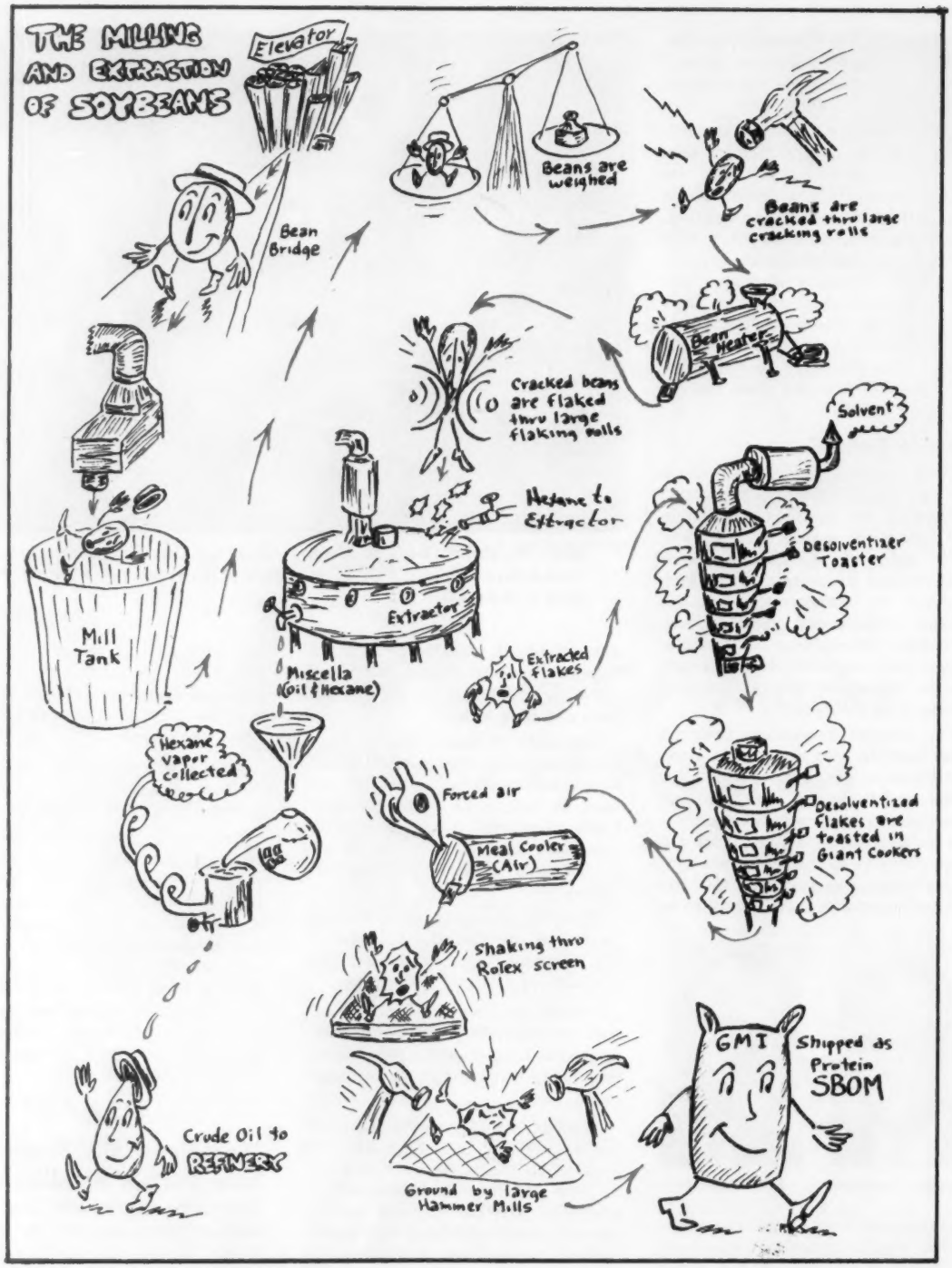
Norman F. Kruse, Central Soya vice president and technological director, believes the research staff has only begun. "We foresee the commercialization of many more new products from the soybean," he declares, "for we in Central Soya have a vital interest in continuing a probing and expanding research program to foster and improve the utilization of our rich agricultural crop resources."

McMillen Calls Promine New Protein Satellite

WHEELER McMILLEN, vice president of Farm Journal, Inc., called Central Soya's new commercial isolated soya food protein a "protein satellite" at Chicago Oct. 27.

He predicted that "no metallic satellite in outer space will be able to match, in terms of human happiness and well-being for humankind, the contribution of this, the protein satellite."

He said the new plant "marks a conspicuous milepost on the ever-improving road toward man's mastery of environment."



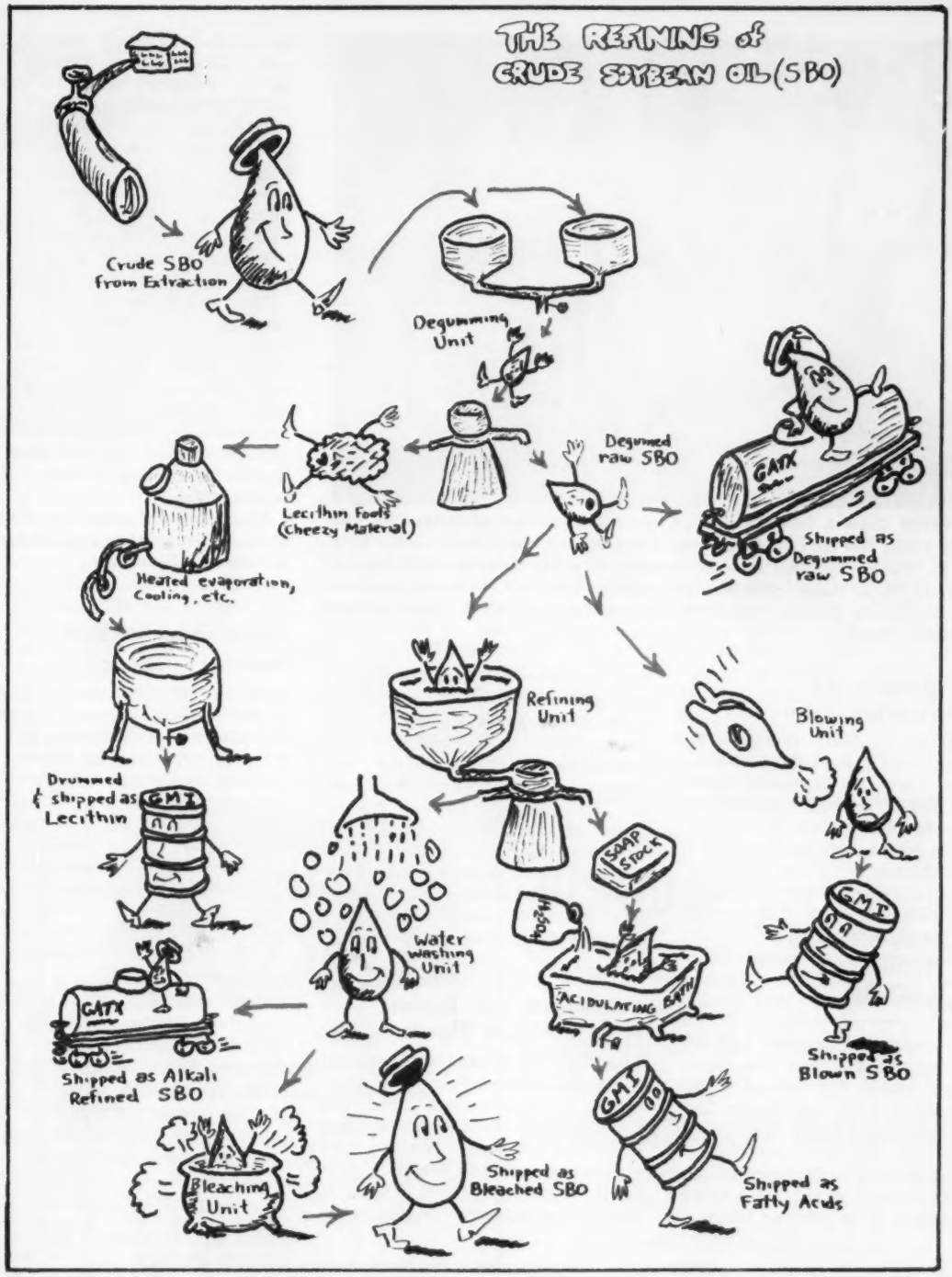
THE CARTOON sketches on this and the following page showing the extraction processing of soybeans and the refining of soybean oil may help our readers who have never visited a soybean processing plant or a refinery to visualize operations.

Sketches were prepared for the Soybean Digest by Nymar Christiansen, chemical division, General Mills, Inc., Kankakee, Ill.

Milling and Extraction. Whole soybeans are withdrawn from storage tanks, aspirated to remove chaff, hulls, and other material and accumulated in a tank in the mill.

As needed the soybeans are withdrawn from the mill tank, carefully weighed into process and then fed to cracking rolls where they are first broken to quarters and then eighths before being subjected to a tempering treatment in a bean heater which softens the soybean particles so they can be compressed into thin flakes in the flaking rolls.

These thin flakes, approximately .001 inch in thickness, contain approximately 18% oil. The flakes are fed into a rotocel extractor where warm hexane solvent extracts the oil and produces extracted flakes which are then transferred to a desolventizer where the solvent is removed and the flakes are cooked. Following the cooking stage the



flakes are conveyed to a toaster where the golden brown color is imparted to them.

When the toasted extracted flakes emerge from the toaster they are very hot and need to be cooled before they can be sifted and ground into soybean oil meal.

The oil extracted from the flaked soybeans contains considerable hexane as it comes from the extractor and must be stripped of hexane before it can be refined.

Refining. The crude soybean oil goes to emulsifying tanks where through the use of live steam the phosphatide fraction is emulsified and then separated in a centrifuge from the soybean oil.

Two products are obtained. One, lecithin, which after heating in a vacuum tank to evaporate excess moisture, is cooled and drummed and shipped as lecithin. The other, raw degummed soybean oil, is shipped as such or further refined.

Degummed raw soybean oil can be converted to heavy bodied oils by heating and blowing or to light colored refined oils suitable for use in paints, enamels and other protective coatings, or converted to edible shortening and salad oils.

The material removed from soybean oil during the refining process is recovered and sold as fatty acids.

DELPHOS Grain & Soya Products Co. and French Oil Mill Machinery Co. officials confer over the current expansion of the Delphos firm's plant. Left to right, E. M. Wiecher, assistant manager, Delphos; R. P. Hutchins, technical director, French; W. B. Thayer, assistant chief engineer, French; F. C. Simon, chief engineer, French; Floyd E. Hiegel, Delphos president; and C. B. Upton, general manager, French.

Big Expansion by Delphos, Ohio, Firm

FLOYD E. HIEGEL, president of Delphos Grain & Soya Products Co., Delphos, Ohio, has announced plans for an extensive expansion of his soybean processing plant. A contract has been signed with the French Oil Mill Machinery Co., Piqua, Ohio, for a 500-ton-per-day solvent extraction plant which will more than double the existing plant.

Engineering Management, Inc., Chicago, Ill., is acting as engineers and consultants for the overall project.

"Our expansion program has actually been under way for some months," stated Mr. Hiegel. "We purchased a 1,200 h.p. boiler last year, and have our foundations poured for the new preparation building as well as for most of the extraction equipment. The major equipment will be received late this year and operation of the new plant started next spring."

Delphos Grain & Milling Co., the predecessor of the present firm, was formed by Mr. Hiegel in 1944. The original capacity was about 40 tons per day processed on two French screw presses. In 1950, an 80-ton Anderson solvent plant was put into operation. This plant was expanded in 1957 by the installation of a Rotocel extractor, and in 1958 by a French desolventizer-toaster.

Open New Van Buren, Ark., Soybean Plant

THE NEW $1 million soybean mill of the Cooperative Processing Association at Van Buren, Ark., was formally unveiled with a big open house and celebration Oct. 27.

Speakers included Arkansas' governor, Orval Faubus, and Howard A. Cowden, president of Consumers Cooperative Association, Kansas City, and of Cooperative Processing Association. Features included a parade and a barbecue dinner.

The plant includes a 200-ton-capacity French extractor and 600,000-bushel storage with three Columbian steel bins and a flat storage warehouse. The firm will produce both 44% and 50% protein meal.

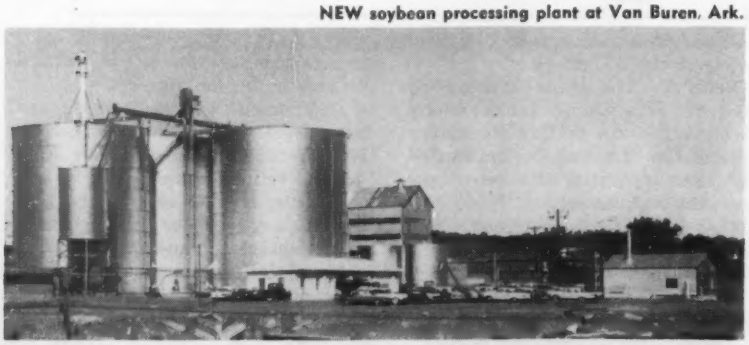
Raymond Robus is general manager and there are 25 employees.

The plant is owned by five local cooperatives at Bentonville, Cave Springs, Gravette, Rogers and Van Buren, and by the regional association, Consumers Cooperative Association, at Kansas City.

Cowden is president of the company, Bruce McCully, vice president, and Homer Young, secretary, all of Kansas City.

The plant will offer a market for soybeans in northwestern Arkansas and eastern Oklahoma.

NEW soybean processing plant at Van Buren, Ark.



Meeting by Soybean Research Council

THE SOYBEAN Research Council of the National Soybean Processors Association met in Buffalo, N. Y., on Nov. 11, preceding the Cornell Nutritional Conference held Nov. 12-13. The Council considers published research and other technical matters in both the edible and industrial utilization of soybean products, and supervises industry-sponsored research projects on behalf of NSPA members. Reports on utilization research of interest to members were given at the Buffalo meeting.

Following the Council meeting at the Hotel Statler-Hilton, the members were conducted on a tour of the Spencer Kellogg Research Center at 4201 Genesee St., Buffalo. An informal reception was held for Council members following the tour.

Soybean Research Council members are:

Fred H. Hafner, chairman, General Mills, Inc.; Dr. M. J. Brinegar, Allied Mills, Inc.; Dr. Wilfred Witz, Archer-Daniels-Midland Co.; Dr. Philip D. Aines, Buckeye Cotton Oil Division; Dr. A. R. Baldwin, Cargill, Inc.; Dr. W. W. Cravens, McMillen Feed Mills; Dr. Everett Blasing, Pillsbury Co.; Dr. Harold L. Wilcke, Ralston Purina Co.; Edward Handschumaker, Spencer Kellogg and Sons, Inc.; Dr. K. N. Wright, A. E. Staley Mfg. Co.; Dr. Hans Wolff, A. E. Staley Mfg. Co.; Dr. Karl F. Mattil, Swift & Co.; Dr. John C. Cowan; Northern Utilization Research and Development Division; Dr. C. Witham, Northern Utilization Research and Development Division; and R. G. Houghtlin, president, National Soybean Processors Association.

Introducing an ASA Director

ABOVE IS Harry Gatton, Jr., Rumsey, Ky., who was elected to the board of directors of the American Soybean Association at the annual convention in St. Louis in August.

Gatton was elected in recognition of the expanding soybean production in the Midsouth. He is a member of the board of directors and vice president of Ohio Valley Soybean Cooperative, Henderson, Ky.

Mr. Gatton lives on a farm at Rumsey, Ky. He farms in partnership with a brother and his father, Harry Gatton, Sr. They operate a total of 1,600 acres of farmland in McLean and Muhlenburg Counties.

Cash crops each year include 200 acres of soybeans, 100 acres of wheat, 5 acres of burley tobacco and 7 acres of dark air cured tobacco. This past year Harry grew 60 acres of certified seed of the new late maturing Hood variety of soybeans. Feed crops include 500 acres of corn, 100 acres of barley and oats, silage corn and hay. The balance of the farm acreage is in permanent pasture.

Gatton Brothers have one of the outstanding registered Hereford beef cattle herds in Kentucky. They carry 150 cows in this herd and use outstanding bulls as sires. They also have a commercial cow herd of 70 cows and feed out some 150 steers to market weight each year.

The Gattons' farming operation is the result of successful planning and putting into practice the improved practices for crop and livestock production.

Mr. Gatton is married. He is active in Farm Bureau work, soil conservation work, Calhoun Lions club, and various other farm and civic activities. He is a deacon in the Calhoun Baptist Church.

Norway Expects Increase In Soybean Imports in '60

NORWAY expects to import 50,000 metric tons (1.8 million bushels) of soybeans, mainly from the United States, in 1960, according to Foreign Agricultural Service. One importer has reported that 6,000 tons (220,000 bushels) will come from Mainland China, as contracts have been made for shipments to start in January. Good prospects for marketing soybean oil as well as soybean meal indicate that the Norwegian soybean crushing industry will operate at a higher-volume level next year.

Will Serve Margarine At Iowa Institutions

MARGARINE is to replace butter in the meals served at Iowa institutions under the state board of control. Board officials approved the step after hearing that the change would mean a saving of $140,000 a year. The margarine will be fortified with vitamin A and colored.

State institutions formerly were required by law to serve butter exclusively. That law was changed a few years ago.

Model Process Plant for World Fair

A SCALE model of an American vegetable oil processing plant will demonstrate U. S. food processing technology to world farm leaders at the First World Agricultural Fair opening Dec. 11 at New Delhi, India.

The model is a reproduction—1/32 actual size—of a typical $2,500,000 U. S. plant. It was designed and built by Girdler process equipment division of Chemetron Corp., Louisville, Ky., for the U. S. Department of Agriculture's display at the India fair. It depicts a "four-car" installation, so called because of its life-size capacity to process four 60,000-pound tankcar loads of crude oil per day into vegetable oil, shortening and margarine.

John E. Slaughter, Jr., Girdler process equipment division president, said the model vegetable oil refinery is an integrated unit that emphasizes the role, in the U. S. agricultural economy, of continuous, automated processing and marketing. The model includes four major units: a storage tank farm for crude, refined and bleached vegetable oils; process equipment for refining, bleaching and automatic deodorization of vegetable oils; an integrated plant producing high purity hydrogen for use in processing of shortening and margarine; and a processing plant for production and packaging of margarine, shortening and cooking oils.

The exhibit will be designed to show Asians how modern food processing techniques can contribute to effective utilization of edible oils that are available from their crops of cottonseed, peanuts and sunflower seeds, Slaughter said.

The intricate model, complete with color-coded piping and life-like models of complex food processing machinery, measures 5½ by 10 feet, covering a 55-square-foot display area.

Slaughter said he believes the model is the first of its kind built by a company that designs and engineers vegetable oil processing plants and equipment. Features of the plant layout, he said, include the integrated 250,000-cubic-foot-per-day plant for producing high-purity hydrogen from locally available natural gas, propane or butane.

For the World Agricultural Fair, Secretary of Agriculture Ezra Taft Benson has promised the U. S. the largest and most complete agricultural exhibit ever attempted. He said it will demonstrate the newest techniques of agricultural research, production and marketing. Much of the 5-acre, $2-million U. S. display has been donated by American industries.

The U. S. exhibit is a joint undertaking of the Department of Commerce, Department of Agriculture, Atomic Energy Commission and the U. S. Information Agency.

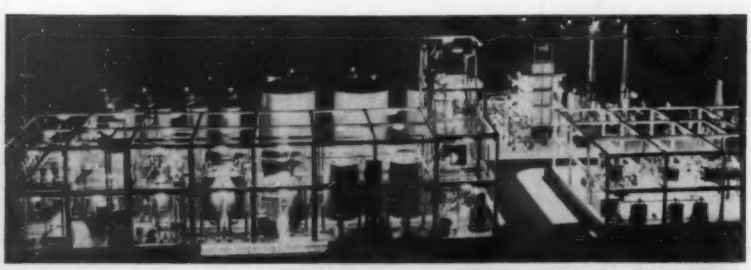
Beans in Short Rotations Are Hurt by Dry Weather

DRY WEATHER stunted soybean yields in many areas this year. And especially hard hit, it seems, were beans in an intensive corn-soybean rotation.

This report is based on results just in from the University of Illinois agronomy research farm at Urbana. Soybeans in the short rotation came up with yields that were only 55% of the previous 4-year average, reports agronomist L. B. Miller.

But soybeans in longer rotation—corn, beans, wheat, legumes—yielded 73% of the level made during the recent, good rainfall years.

Miller says all plots in the study were on the same type of soil and received generous fertilizer treatments. The only difference was rotation history, and apparently that makes quite a difference in a dry year.



BRIGHTLY lighted model of a typical U. S. vegetable oil refinery and processing plant designed and built by Chemetron Corp.'s Girdler process equipment division for the First World Agricultural Fair starting at New Delhi, India, Dec. 11.

Photo courtesy of Plains Farmer

PRESIDENTS Geoppinger, Simcox, and Moore.

Three Commodity Presidents Confer at Plainview, Tex.

THE PRESIDENTS of the Americar Soybean Association, the Grain Sorghum Producers Association, and the Corn Growers Association along with directors of the three associations got together recently in Plainview, Tex., the home of the Sorghum Association, to discuss mutual problems.

The three presidents are left to right, Walter Geoppinger, Boone, Iowa, president of the Corn Growers Association; C. G. Simcox, Assumption, Ill., president of the American Soybean Association; and Frank Moore, president of the Grain Sorghum Producers Association.

Among the directors present was John Butterfield, Pana, Ill., a director of both the corn and soybean associations.

The officials of the farm commodity organizations discussed feed grains research, market development, and legislative problems. Moore said the feed grains people had received much assistance from ASA and the Soybean Council of America, Inc., in marketing information and marketing contacts. Much time has been saved by using the soybean experience and know-how in projecting the grain sorghum export markets.

Funds to finance the Grain Sorghum Producers Association are from a voluntary deduction from deliveries made by individual farmers at the elevator.

Simcox described the soybean crop in west Texas as equal to any being grown in Illinois.

USDA Oil Films Adhere to Metal

PROMISING film-forming materials that adhere to metals have been made from soybean and linseed oils by U. S. Department of Agriculture chemists. The films are flexible, withstand heat, and resist abrasion, alkalis, acids, and such solvents as alcohols, mineral oil, and benzene—all properties that are needed in film coatings for metals.

These properties also suggest uses for soybean and linseed oil films as adhesives and as concrete and masonry paints, according to chemists of USDA's Agricultural Research Service who are currently evaluating agricultural commodities as sources of metal coatings.

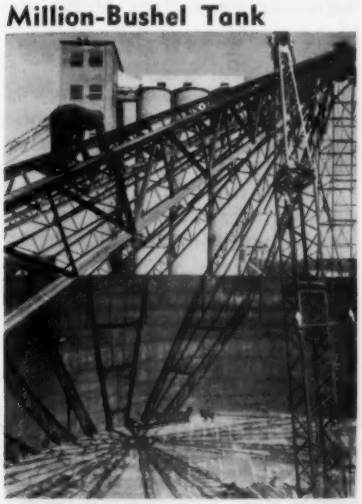
Research that led to these oil derivatives, called vinyl ethers, was done at the ARS Northern Utilization Research and Development Division, Peoria, Ill., under the direction of H. M. Teeter, L. E. Gast, and J. C. Cowan, chief of the oilseed crops laboratory.

Although vinyl ether films still are in the laboratory stage of development, the scientists have demonstrated that these films adhere especially well to black iron and aluminum. Discs stamped from metal covered with the films were formed into lids or ends and crimped into place on can bodies without breaks in the films.

To make the new film materials, Northern Division chemists reacted fatty alcohols — commercially produced from soybean and linseed oils by chemical reduction sodium—with "welding-grade" acetylene to produce vinyl ethers. Molecules of the vinyl ethers were joined together by another chemical reaction—polymerization — to produce "giant" molecules, which make up the new film-forming materials.

The vinyl ether polymers and copolymers are colorless to pale-yellow, viscous liquids that cure by baking or air drying to form almost colorless to amber films.

Million-Bushel Tank



LIKE A SPIDER on a web, a steelworker inches along a narrow beam, 60 feet above the ground, unhooking a hoist cable which lifted the 2-ton rafter into place. The scene occurred during construction of a million-bushel storage tank at Cargill, Inc., processing plant at Savage, Minn. The bin, erected by Minneapolis Tank and Manufacturing Co., was completed in time to receive the 1959 bean crop, Cargil officials said. It is said to be the largest steel storage bin in the Twin City area.

SOME REPRESENTATIVES of South American industry who attended the Peru conference, left to right: John L. Schnake and Arusto G. Barrios, Industrias Anderson, Clayton & Co., S.A., Lima, Peru; Alfredo Ferreyros and Miguel Kruger, Cia Industrial Lida de Huacho, Lima; Antonio Alvarez Barba, Industrias Ales C. A., Quito, Ecuador, and Ramon Gonzalex, AD, Incala, Manta, Ecuador; Hernando Patino, manager Gravetal Ltd., Medellin, Colombia, and Jorge Duran Castro, Grasas S. A. Bug, Colombia Superintendent; Dr. Luis Contzen, Industrias Vinicsa Patria, S. A., Santiago, Chile, and Dr. Jacobo Furman, Coprona, S. A., Santiago.

PAPER is read by Wilfrid B. Cox, vice president of Honeymead Products Co., Mankato, Minn., at Canary Islands seminar.

GOFIO breakfast is enriched with soy flour for children of Caritas organization in the Canary Islands by Juan G. de Madariaga.

SOYBEAN COUNCIL OF AMERICA, INC.

Fall Conference Held in Lima, Peru

REPRESENTATIVES from four South American countries — Chile, Colombia, Ecuador and Peru—recently met in Lima, Peru, with Howard L. Roach, president of the Soybean Council, to explore the possibility of increasing the overall consumption of fats and oils products in those countries. All four countries represented at the 2-day conference have contracts for export market development projects for U. S. soybeans and their products with the Council and USDA's Foreign Agricultural Service.

Walter W. Sikes, director of the fats and oils division of FAS, and Clarence W. Pike, agricultural attache to Peru, were also at the conference.

President Roach said that since per capita consumption of fats and oils is quite low in South American countries compared with the United States, the Soybean Council felt that is one area where something might be done about increasing consumption of fats and oils.

Mr. Roach outlined the background and present activities of the Council including the export market projects that will make soy products available in return for the currencies of the countries buying the products. He said the money contributed by U. S. agriculture to the activities of the Council is not looked on as anything but a business deal. The Council is not a "do good" organization.

Industry representatives from the four South American countries told about their present fats and oils industry.

Conclusion of the conference: "There is a desire on the part of all nations attending this conference to become self-sufficient so far as fats and oils are concerned. Various oilseeds are being experimented with but all agree that it will be some time before their goals can be achieved, if ever. They will therefore be in the market for fats and oils for the foreseeable future."

Delegates said they were anxious to obtain technical assistance from the Council in solving the problems of manufacturing and marketing fats and oils products.

Seminar on Better Diets Held in Canary Islands

NEW HOPE for better diets for people living in the underfed areas of the world came out of a recent human nutrition seminar in the Canary Islands. The seminar was sponsored jointly by the Soybean Council of America, Inc., and Foreign Agricultural Service of the U. S. Department of Agriculture.

In Africa and parts of Europe livestock products are in short supply and high priced. Diets in those countries consist mainly of cereals of very low protein content, and people find it a difficult problem to obtain the protein needed. Soybean foods such as soy flour contain up to 50% protein and would be a natural addition to such diets, the government officials and representatives and millers and bakers of the Canary Islands were told. This was the first such seminar held to demonstrate the use of soy flour as an economical source of high quality protein for diets in protein-short areas.

Representing the Soybean Council of America were Fred R. Marti, European regional director, Rome, and Javier de Salas and Juan de Madariaga, director and assistant director for Spain. William Lodwick, agricultural attache of the American Embassy at Madrid, and Forest Bell from International Cooperation Ad-

ministration were also in attendance.

Council officials considered the Canary Islands a good place to make such a demonstration because of the typically poor diet. The main food in the island is "gofio," which consists of toasted cereals ground and mixed into some other dish such as fish or milk. Gofio has a very low protein content. Since eggs, meat and milk are practically nonexistent for the working class, the only way for them to obtain a proper diet is by supplementing the gofio.

Sonja Soya, Soybean Council's home economist, demonstrated a number of dishes made with a soy flour content, including meat balls, breads and gofio made with a 20% soy flour. The foods found ready acceptance. Newspapermen and millers, on whom the foods were tried, said that the soy flour gave the gofio a smooth and soft taste. De Salas said the Spanish Quartermaster Corps has expressed interest in soy flour for Spanish troops in Africa.

Wilfrid Cox, vice chairman of the Soybean Council soy flour committee, Mankato, Minn., presented a chart to show that soy flour is the cheapest source to supply people's minimum needs for protein.

Recipes Prepared by Sonja Soya at Seminar

FOLLOWING were some recipes employing soy flour offered by Sonja Soya at the Canary Islands seminar:

Fish Croquettes

5 pounds of boiled fish
300 gr. soy flour
125 gr. wheat flour
125 gr. of onions
¼ liter milk
125 gr. bacon
spices

No eggs were used at all, which surprised the chef very much. The croquettes were fried in 50% soybean oil and 50% olive oil.

Meat Balls

From the cheapest cuts of ground meat
1,500 gr. ground meat (1,000 gr. beef, 500 gr. pork)
125 gr. onions
250 gr. soy flour
750 gr. water
spices

No eggs were used.

Pisto

A typical Spanish dish prepared with tomatoes, green peppers, onions and cucumber. 100 gr. of soy flour added, just enough to get a binding effect. It tasted very good.

Cheese Sticks

Prepared with regular flour and 4% soy flour.

Bolovans

Bolovans filled with a special fish mixture made of 5 pounds boiled fish, tomato concentrate, 125 gr. oil (50% soy, 50% olive), 200 gr. soy flour and spices. All ingredients were thoroughly mixed and stuffed into the bolovans.

Negotiating Global U. S. Export Project

THE EXPORT market development project for U. S. soybeans and soybean products in Spain has been renewed between the Soybean Council and Foreign Agricultural Service, effective Nov. 1.

The operation of the project will be similar to last year, with Javier de Salas, Madrid, continuing as director of Spanish operations, and Juan G. de Madariaga as assistant director.

Negotiations are in progress between FAS and the Council on the first market development project ever written on a global basis, with progress reported. If and when completed this supervisory project will make market development work easier to achieve.

It is anticipated that the agreement will be written for a period of several years, in accordance with the new P. L. 480 law passed by the last session of Congress.

Ed James Assists in Israel, Italy, Spain

ED. M. JAMES, technical consultant for the Soybean Council, was in Israel in October and November assisting refiners and users of soybean oil on problems confronting them in the assimilation of greater quantities of this oil in their economy.

Dr. James spent some time in Egypt on the arrival in that country of the first shipment of U. S. soybean oil.

Dr. James will also spend some time in Italy and Spain before returning to the United States. It has been the experience of the Council that supplying proper technical information on the handling, refining and usage of soybean oil is highly important in those countries where there has been no experience with soybean oil, and where preconceived ideas of quality or value may exist.

Cox Consults with Industry in Israel

W. B. COX, vice chairman of the special products committee of the Soybean Council, was in Israel in November consulting with millers, processors and other interested people to determine what kind of soy flour technicians are needed in Israel to work with bakers and soy flour users and manufacturers.

Japan May Free U. S. Soybean Imports

By DAVID R. FARLOW
Assistant to the Executive Vice President
American Soybean Association

THE JAPANESE are the largest single importer of U. S. soybeans. This year it is estimated that Japan will import about 37 million bushels of U. S. soybeans.

Today, Japan imports U. S. soybeans under a government-controlled allocation system. The Japanese government decides the quantity of soybeans it will import and then allocates the dollar exchange for that quantity to the various importers. This of course limits the total quantity of soybeans that can be imported by the various users, and which, from all indications, is quite a bit less than would be consumed if import restrictions were removed.

In past years the Japanese government has insisted that it must control these imports due to a shortage of dollar exchange. This past year Japan has risen to a dollar exchange position which is the highest in her history, due to greatly increased exports to dollar areas.

As a result of this favorable dollar position, the U. S. government has requested that the Japanese government allow free trade on 10 different items imported from the United States, one of which is soybeans. Japan's Ministry of Finance and the Ministry of International Trade and Industry favor this proposal.

The free import system that will be used is called "Automatic Allocation." Under this system, the Japanese government will make available a predetermined amount of dollar exchange for the purchase of U. S. soybeans, based on the predicted needs of the soybean industry. The individual buyer, therefore, will not have to obtain this dollar exchange from the government before he can purchase U. S. soybeans, but merely make his contract with the U. S. exporter, and the dollar allocation will be automatic up to the total allocation amount. This system has been in effect on soybeans from sources outside the United States and on other oilseeds.

The Ministry of Agriculture and Forestry, however, is opposing its immediate adoption for U. S. soybeans, stating that it needs time to pass the necessary legislation to insure the protection of the price of domestically produced soybeans. The Ministry claims that if free imports are allowed on U. S. soybeans this will force domestically produced soybeans to sell at a price much below the present support price. Therefore, it has proposed what is referred to as the "Momentary Touch" system. This is a system whereby the Japanese government will hold a momentary ownership to all soybeans imported into Japan under the AA system, just long enough to increase the price and collect the difference.

This actually amounts to an increased duty on soybeans. As it now stands, there is a 10% duty placed on all imported soybeans. It has been suggested to the Japanese Ministry of Agriculture and Forestry that this 10% duty already imposed be earmarked for supporting domestically produced soybeans. This suggestion has not met with favor. The 10% duty that is now collected on soybeans goes into the general fund of the Japanese treasury and is not available to the Ministry of Agriculture and Forestry.

The consensus of opinion of the Japanese soybean industry, importers, and government officials is that the AA system will be adopted for soybeans. The question is when and under what conditions.

The United States has requested that the AA system be adopted immediately, and with no restrictions. The U. S. Ambassador to Japan has repeatedly requested that free trade be implemented on these 10 commodities. The Agricultural Attache to Japan has had several meetings with the Japanese officials and emphasized the importance of this in regard to U. S. soybeans.

This writer was in Japan last month and participated in several of these meetings, and has been assured by the Attache that these representations will be continued. The U. S. government representatives are advocating this in the General Agreement on Tariffs and Trade Conference now in progress in Tokyo. The U. S. delegation has instructions to pursue this in the general conference. Failing there, they are instructed to negotiate it in bilateral discussions with the Japanese.

The Ministry of Agriculture and Forestry of Japan now says that it will not be able to implement the AA system on soybeans until Oct. 1, 1960. It is also stating that this "Momentary Touch" control must be placed in effect in conjunction with the implementation of Automatic Allocation.

Kitchen Car Demonstration at Tosu City, Japan

DEMONSTRATION of soybean and wheat food products by Miss Kondo of Tosu Health Center is watched by a group of women at Tosu City, Japan. The kitchen cars, which have been in operation since May 1958, are sponsored jointly by the American Soybean Assocation and the Western Wheat Associates, Inc.

AMERICAN SOYBEAN ASSOCIATION

This will have a restrictive effect on total imports of U. S. soybeans and could conceivably result in reducing the quantity imported into Japan. If this additional duty is imposed under the guise of the "Momentary Touch" system for the protection of Japan's homegrown soybean crop, it would result in a higher priced end product. This naturally would then require a larger share of the consumer's dollar and could very possibly result in less end product being sold, and therefore a reduced sale of U. S. soybeans into Japan.

The American Soybean Association is opposing the "Momentary Touch" system or any similar vehicles of tax or duty increases, and is urging all possible pressure be exerted by the Japanese soybean industry and the U. S. government to influence the Japanese government to adopt the AA system on a free basis.

Results of this endeavor will be reported to you through the Soybean Digest as soon as they are known.

Soybean Recipe Book Issued by Institute

JAPANESE women have shown a tremendous interest in the cooking demonstrations showing the nutritional value of soybeans and how to use them effectively in the diet, which have been carried on by the Japan Nutrition Association at various health centers in Japan in recent years.

Last year the association held 2,200 short courses in dietary improvement at the 800 Japanese health centers, and attendance totaled 220,000! It is hard for us to visualize the total impact of such meetings, since nothing comparable is available in this country. The demonstrations were carried on under the sponsorship of the Japanese American Soybean Institute, the American Soybean Association's operating agency for the market development project in Japan for U. S. soybeans and soybean products.

The Japanese American Soybean Institute has issued a "Book of Recipes Using Soybeans," which includes 108 of the recipes that have been introduced at the cooking demonstrations. The booklet is edited by the Japan Nutrition Association. It is available for distribution at the soybean meetings at the health centers.

The booklet contains articles on frozen and bagged tofu, shoyu, miso, natto, and "golden ajinomoto," seasoning manufactured by the Ajinomoto Co.

Holds Patent for Debittering Process

MANY ATTEMPTS have been made to remove beany odors and flavors from whole beans. Most treat ground soybeans and the processing costs are rather high.

K. Hirose, Tokyo, holds a U. S. patent for a process for debittering whole soybeans, said to be very simple and economical.

The process includes soaking the soybeans for about 10 minutes, then taking them out of water when the seedcoats swell and begin to wrinkle, and putting them into an inclined drum and subjecting them to indirect heating of about 80° C for about 30 minutes while rotating the drum.

At this low temperature, there is no danger of scorching the material, and complete debittering may be obtained.

For further information concerning U. S. Patent No. 2901353 write K. Hirose, care of Soybean Digest, Hudson, Iowa.

Please mention the Soybean Digest when writing to our advertisers.

1959 Soybean Crop Summary

Based on local reports by Soybean Digest crop reporters

	Total yield compared with 1958	Oil content	Moisture content	Foreign material	Part of crop stored
Blytheville, Ark.	15% less	.....	13% to 14%	1.8%	3%
E Ark.	same	10 to 11 lbs.	14%	3% to 4%	10%
N Miss. Co., Ark.	less	.....	.....	.....	few
Del.	same	.....	high	average	5%
Escambia Co., Fla.	10% to 20% less	.....	.....	.....	5%
Ill.	10% less	much up	12.8%	1.9%	45%
W Central Ill.	much less	.....	11% to 13%	1% to 4%	50%
Stanford, Ill.	15% less	good	high	more	30%
Champaign, Ill.	down	normal	normal	sl. lower	under 50%
Edgar Co., Ill.	lower	.....	13%	2%	10%
McLean Co., Ill.	3 to 5 bu. less	up	higher	high	75%
Washington Co., Ill.	.....	.....	11% to 16%	3% to 20%	30%
W Central Ill.	10% less	.....	13%	5%	small
Central Ill.	10% less	good	.....	.....	some more
Central Ill.	10% less	.....	okay	better	40%
NE Ind., NW Ohio	same	.....	low	down	60%
S Central Ind.	up 5%	.....	13% to 14½%	high	30%
NW Ind.	down	okay	good	little	90%
Tippecanoe Co., Ind.	same	up	.....	under 5%	50% to 60%
Mason City, Iowa	15% less	18.5%	13%	1%	60%
Calhoun Co., Iowa	up	good	12½%	.....	60%
Webster Co., Iowa	25% less	.....	12%	under 1%	80%
Ralston, Iowa	35% less	high	low	low	30%
Kans.	11% less	normal	8% to 14%	2%	15%
S Central Kans.	up 25%	20% to 21%	11%	1.5%	15%
Girard, Kans.	up 10%	9.5 lb.	11%	1% to 2.4%	25%
W Ky., S Ind.	less	up	high	high	50%
W Ky.	10% less	lower	high	high	.....
NE La.	up 10%	good	12% to 13%	little	5%
NE La.	10% less	.....	14% to 15%	3%	5% to 10%
Midsouth	up	up	.....	more damage	.....
SW Central Minn.	less	higher	9% to 17%	less	over half
SW Central Minn.	less	high	.....	not bad	70% to 75%
SW Minn.	5% to 10% less	18% to 20%	12% to 14%	low	50%
Brown Co., Minn.	10% less	.....	12% to 13%	not bad	.....
Morgan, Minn.	5% to 10% less	22%	14%	2½%	25%
S Central Minn.	20% less	.....	12½%	1%	.....
S Central Minn.	20% less	.....	11% to high	low	over 50%
Nobles Co., Minn.	5% less	18% to 20%	12% to 14%	1% to 1½%	30% to 40%
Sharkey Co., Miss.	up 5%	.....	12% to 13%	low	10% to 15%
Pemiscot & New Madrid Cos., Mo.	10% less	.....	14%	all scalped	50%
SE Mo.	10% less	.....	high	average	20%
SE Mo.	10% less	.....	high	.....	10%
SW Mo.	down	.....	low	low	.....
St. Joseph, Mo.	3% to 5% less	good	13%	varied	2%
Mo.	3% to 5% less	.....	10% to 11%	3% to 4%	less
Audrain Co., Mo.	20% less	.....	.....	.....	50%
Audrain Co., Mo.	down	good	good	higher	35%
N Mo.	.....	high	low	high	30% to 40%
Nebr.	less	.....	12% to 14%	little	.....
E N.C.	10% less	.....	15% to 18%	3.2% damage	0
Beaufort Co., N.C.	5% less	.....	high	normal	10%
N.C.	10% less	.....	.....	.....	.....
N.C.	sl. less	.....	.....	.....	small
Amenia, N. Dak.	10% less	.....	12%	fair	85%
W Central Ohio	5% less	.....	10% and up	.....	45%
W Central Ohio	same	.....	low	high	40%
Kenton, Ohio	10% less	.....	13%	.....	60%
Paulding, Ohio	5% to 20% less	20%	13%	1%	50%
Ohio	sl. less	.....	low	high	33%
Miami, Okla.	15% less	18%	12%	2%	25%
S. C. & Savannah, Ga.	sl. up	.....	up	normal	small
Tenn.	15% to 20% less	18.5%	13.1%	2.8%	10%
W Tex.	double	.....	7% to 9%	.....	.....
High Plains of Tex.	.....	17.7%	9.29%	.85%	0
High Plains of Tex.	same	higher	13.5%	.....	less than 10%
Tidewater, Va.	.....	.....	15%	1%	40%
SE Va.	.....	.....	14%	2.5%	10%
Va.	sl. less	.....	high	average	a few
Essex Co., Ont.	down	.....	under 14%	small	35%
Essex Co., Ont.	same	good	14%	small	35%
Essex Co., Ont.	5% less	.....	14% to 16%	normal	40%

Based on October and November reports. As reports are local, they may or may not check with state-wide reports. All comparisons are with 1958. Most reports on storage are forecasts since complete crop was not harvested at the time they were made.

CROP REPORT

Long Harvest Season Nears Close Dec. 1

AFTER a fall harvest season that was much less favorable than last year, soybean combining was completed Dec. 1 except for scattered fields in the North and some acreage in southeast coastal areas.

Soybean production was estimated at 528 million bushels as of Nov. 1 by the U. S. Department of Agriculture, down slightly from Oct. 1 and 8% below the 574 million bushels for 1958.

The indicated U. S. yield of 24 bushels per acre was .2 bushel below the estimate on Oct. 1 and the record high of last year.

The USDA report showed declines in yield from a month earlier in Missouri, Ohio, Mississippi and North Carolina, but gains in Iowa, Minnesota and South Carolina. There was no change in yield outlook in October in the major producing states of Illinois, Indiana and Arkansas.

A summary of our reports would indicate that moisture content of 1959-crop soybeans is higher than last year. Quality is more uneven

SOYBEANS FOR BEANS

	Yield per acre (bushels)			Production (1,000 bu.)		
	Average 1948-57	1958	Preliminary 1959	Average 1948-57	1958	Preliminary 1959
N. Y.	16.2	17.0	15.0	100	102	90
N. J.	18.9	25.0	27.0	555	1,125	1,107
Pa.	17.3	22.0	21.0	381	330	294
Ohio	22.5	26.0	26.5	24,800	37,466	37,710
Ind.	22.9	26.5	26.5	41,410	58,432	57,850
Ill.	24.2	28.0	26.5	96,964	140,364	126,590
Mich.	20.5	23.0	24.0	2,668	6,095	5,160
Wis.	14.8	14.5	18.0	830	1,740	1,584
Minn.	19.0	17.5	18.5	30,879	53,935	40,404
Iowa	22.8	25.5	27.0	44,343	78,668	64,071
Mo.	19.0	26.0	23.0	27,917	55,432	50,600
N. D.	13.6	13.5	12.0	953	3,672	2,676
S. D.	15.0	11.5	10.0	1,712	2,978	1,420
Nebr.	20.6	30.0	27.0	1,919	6,180	3,564
Kans.	11.8	22.0	22.0	4,094	9,262	9,020
Del.	16.8	22.5	22.0	1,529	3,622	3,674
Md.	18.0	22.0	21.0	2,136	4,246	4,200
Va.	17.8	22.5	20.5	3,274	6,052	5,678
N. C.	16.8	23.0	21.5	5,426	10,212	10,256
S. C.	12.0	15.5	16.0	1,782	5,611	6,256
Ga.	11.1	12.5	16.0	536	1,125	1,312
Fla.	[1]19.3	25.0	23.0	[1]424	1,150	1,058
Ky.	18.0	24.5	25.0	2,286	3,871	3,500
Tenn.	18.4	23.5	24.0	3,554	6,486	6,960
Ala.	19.3	22.5	23.0	1,646	2,970	3,289
Miss.	16.2	23.0	23.0	7,013	18,400	19,872
Ark.	18.0	24.5	24.0	15,163	49,637	53,112
La.	17.4	22.0	24.0	1,196	2,860	3,312
Okla.	11.8	22.5	23.0	455	1,012	1,242
Texas	[1]18.9	26.0	30.0	106	1,378	2,250
U. S.	21.0	24.2	24.0	326,020	574,413	528,111

[1] Short-time average. November 1959, Crop reporting board, AMS, USDA

than last year and foreign material content averages higher.

Oil content on the 1959 crop appears to average substantially higher than last year.

Farmers do not appear to be holding as large a part of the crop as they were a year ago in northern areas, but they are holding more soybeans in the South.

World Soybean Crop Under Last Year

WORLD PRODUCTION of soybeans in 1959 is estimated at 944 million bushels, the second largest outturn of record, according to Foreign Agricultural Service. Although 5% less than last year's record harvest, this estimate is almost 40% larger than the 1950-54 average. This year's decline follows 5 consecutive years of increased world soybean production.

The estimated 50-million-bushel decline from 1958 is attributed almost entirely to smaller crops in the United States and Mainland China, which normally account for almost 95% of world production and almost all the soybeans and soybean oil that enter world trade. Canada's crop also declined this year, but harvests in Indonesia, Japan, Brazil and Yugoslavia were larger than in 1958.

With carryin stocks at an alltime high of around 62 million bushels, U. S. supplies of soybeans during the 1959-60 marketing year (beginning Oct. 1) are estimated at 592 million bushels or only 5 million bushels less than a year earlier. Consequently, Free World supplies will approximate last year's record.

Canada's 1959 soybean crop at 5.7 million bushels (September forecast) is 14% smaller than last year's record. The decrease from 1958 is due to a 5% decline in sown acreage and to less favorable growing conditions. As production meets less than one-half of domestic soybean needs, Canada imports sizable quantities of beans and oil from the United States.

On the basis of tentative data, soybean production in Mainland China this year is estimated unofficially at around 350 million bushels compared with an estimated 360 million bushels last year. Acreage is believed to have increased following a sharp decline in 1958 when there was reputedly a shift to grain crops. Efforts to increase production in 1958 by means of manuring, deep plowing and irrigation probably were repeated in 1959. And, while the weather in the commercial soybean-producing areas of the Northeast was better this year than in 1958, prolonged drought is believed to have reduced yields in some important soybean-producing areas of China-proper.

SOYBEANS: ACREAGE, YIELD PER ACRE, AND PRODUCTION IN SPECIFIED COUNTRIES AND THE WORLD, AVERAGES 1950-54, ANNUAL 1957-59 [1]

	Acreage [2] (1,000 acres)				Yield per acre (bu.)				Production (1,000 bu.)			
	Average 1950-54	1957	1958	1959 [3]	Ave. '50-54	'57	'58	'59 [3]	Average 1950-54	1957	1958	1959 [3]
North America:												
Canada	188	256	263	251	22.4	25.4	25.3	22.9	4,131	6,508	6,649	5,749
United States [5]	14,747	20,826	23,752	21,968	20.3	23.2	24.2	24.1	298,422	483,715	574,413	529,793
South America:												
Argentina	2	4	2	.....	13.7	13.9	14.9	.....	30	51	22	.....
Brazil	[4]157	241	262	289	[4]22.1	18.5	17.4	19.1	[4]3,471	4,464	4,556	5,512
Europe:												
Italy	2	1	1	.....	22.1	27.3	28.1	.....	34	22	21	.....
Yugoslavia	12	15	20	25	7.3	19.7	12.6	20.8	90	296	254	514
Other Europe (excl. U.S.S.R.)	75	55	40	40	.....	.....	.....	.....	480	410	215	260
U.S.S.R. (Europe and Asia)	813	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Africa:												
Belgian Congo & Ruanda Urundi	9	15	15	15	7.4	9.9	9.9	9.9	69	147	147	147
Nigeria [6]	.....	.....	.....	.....	.....	.....	.....	.....	250	538	123	.....
Union of South Africa	[4]12	.....	.....	.....	6.6	.....	.....	.....	76	67	.....	.....
Asia:												
Turkey (Europe and Asia)	8	15	15	.....	12.9	8.9	8.6	.....	104	136	129	110
China, Mainland	28,219	31,480	24,200	25,000	11.7	10.6	14.9	14.0	330,000	335,000	360,000	350,000
Indonesia	1,066	1,297	1,495	1,645	10.2	9.6	10.4	10.3	10,829	12,457	15,490	17,000
Japan	1,040	899	856	855	15.7	18.8	16.8	18.4	16,521	16,855	14,374	15,708
Korea, South	625	685	664	.....	7.8	8.2	8.5	.....	4,835	5,610	5,635	.....
Taiwan	62	101	108	.....	9.2	12.0	14.2	.....	576	1,214	1,532	.....
Thailand	54	63	50	.....	13.0	16.0	15.9	.....	700	1,009	797	.....
Total excluding "Other Europe," U.S.S.R., China-Mainland and North Korea [7]	18,070	24,620	27,700	26,080	.....	.....	.....	.....	340,790	534,635	625,435	584,555
Total world [7]	47,880	57,645	53,430	52,610	.....	.....	.....	.....	681,070	879,710	995,315	944,480

[1] Years shown refer to years of harvest. Southern Hemisphere crops which are harvested in the early part of the year are combined with those of the Northern Hemisphere harvested the latter part of the same year. [2] Figures refer to harvested areas as far as possible. [3] Preliminary. [4] Less than 5 years. [5] Acreage harvested for beans. [6] Purchases for export. Local consumption is small. [7] Includes estimates for the above countries for which data are not available and for minor producing countries. Foreign Agricultural Service. Prepared or estimated on the basis of official statistics of foreign governments, other foreign source material, reports of U. S. agricultural attaches and other U. S. representatives abroad, and related information. Prewar estimates for countries having boundaries have been adjusted to conform to present boundaries, except as noted.

Less Precipitation at Most Points in 1959

TOTAL PRECIPITATION during the 4 main growing months of June, July, August and September was less at seven out of ten points in the soybean belt in 1959 than it was in 1958, according to Weather Bureau reports. Precipitation was greater at three points in 1959 than it was in 1958.

The total precipitation in inches at 10 points in 1959 with 1958 in parenthesis: Cleveland 10.72 (16.36); Des Moines 12.52 (21.14); Indianapolis 9.47 (20.71); Memphis 17.44 (13.13); Minneapolis 16.06 (9.07); Peoria 9.50 (19.71); Quincy, Ill. 7.55 (24.73); Raleigh 20.04 (14.40); Vandalia, Ill. 12.40 (18.73); Washington, D. C. 12.02 (18.69).

October 1959 precipitation at the same 10 points: Cleveland 3.82; Des Moines 2.11; Indianapolis 5.86; Memphis 1.15; Minneapolis 3.29; Peoria 3.66; Quincy, Ill. 5.23; Raleigh, N. C. 6.11; Vandalia, Ill. 2.49; and Washington, D. C. 3.37.

PUBLICATIONS

Larger Protein Supply Estimated by Committee

THE FEED SURVEY committee of the American Feed Manufacturers Association estimates a supply of high protein feeds totaling 16,713,000 tons for the 1959-60 feeding year against an estimated use of 15,533,000 tons. Total oilseed meals available for feed are 12,415,000 tons as compared with 11,789,000 tons fed in 1958-59.

The committee, which is composed of 24 agricultural college leaders from all sections of the nation, points out that soybean meal supplies are somewhat larger, and supplies of cottonseed meal are much larger than last year. Although livestock feeding operations in the United States are expanding, feed supplies are more than enough to take care of the increase, the committee notes.

Estimated Feed Use and Supplies for Feeding Year Beginning Oct. 1, 1959. American Feed Manufacturers Association, 53 W. Jackson Blvd., Chicago 4, Ill.

Issue Brazilian Book on Soy Milk

SOY MILK when well prepared and adequately supplemented can be used as a good substitute for cow's milk any time cow's milk cannot be used for economic or medical reasons, according to Jose Marcondes Borges, agronomic engineer of Sao Paulo, Brazil. He has published an extended study of soy milk based on Brazilian and foreign literature on the subject.

The author says there is not only a lack of systematic study of the techniques of making soy milk, but also great disagreement between authors as to the techniques that should be employed.

He notes a general opinion in the literature that soy milk is not pleasing to the taste of adults. But he reports he made some experiments and found that with the addition of some ingredients easily found on the Brazilian market, he could prepare a soy milk that is well accepted by normal adults. He describes the process used in detail.

Contribuicao ao Estudo do Leite de Soja. By Jose Marcondes Borges, engenheiro agronomo e M. S. Paper bound, 202 pages. In Spanish with English summary. Sao Paulo, Brazil.

West African Soybean Production Is Down

SOYBEANS in West Africa are grown mainly in the Tiv areas of Benue Province. They are also grown in the provinces of Kabba and Zaria, and the Jos Plateau region.

In the Tiv areas where soybeans are grown in rotation, they are planted on land that is just being taken out of fallow or following millet in July or August.

At Samaru, an effort is being made to introduce new high-yielding varieties of soybeans. Imported varieties are being studied, including some U. S. varieties. As present per-acre yields are low, expansion of the crop will be modest until high-yielding varieties are developed.

Soybean production for export has expanded rapidly since 1950, but production of the 1959 crop was down considerably.

West Africa's Fats and Oils Industry. FAS-M 62. September 1959. Foreign Agricultural Service, U. S. Department of Agriculture, Washington 25, D. C.

Webster County Leads Iowa in Bean Production

WEBSTER County, Iowa, in the central district led the state in soybean production in 1958 with 3 million bushels, as it has for some years.

The state had four 2-million-bushel counties: Kossuth with 2.95 million bushels, Calhoun with 2.6 million, Greene with 2.06 million, and Pocahontas with 2.04 million.

There were 16 million-bushel counties. The cash grain producing central district, followed by northwest and north central districts, led in soybean production last year.

Annual Farm Census 1958. Bulletin No. 92-T. Iowa Department of Agriculture, Division of Agricultural Statistics, Iowa Bldg., Room 506, Des Moines 7, Iowa.

LETTERS

Purple Mottling Does Affect Soybean Grade

TO THE EDITOR:

We have just received the November issue of the Soybean Digest. We read it with interest and look forward to it from month to month. The November issue had an article on page 39 entitled, "Some Purple Stain Reported in North Areas." The last paragraph of the article states in part:

"This means that purpling alone would not be cause for degrading or dockage unless accompanied by the damage which causes the discolored interior of the seed."

It is thought you should know that the writer of the article apparently misread the soybean standards. As a result of this, you may receive some inquiries.

It is true that purpled-mottled soybeans will not be considered as damaged beans unless otherwise damaged. However, if you will refer to the grades and grade requirements for soybeans as contained in the soybean standards, you will note that such a grade requirement is a part of the soybean standards. It is listed in a footnote on page 63 of the September 1959 revision of the Official Grain Standards of the United States. It reads as follows:

"1—Soybeans which are purple mottled or stained shall be graded not higher than No. 3."

The above requirement became a part of the soybean standards Sept. 1, 1955. The grade determination is made on the general appearance of the sample as a whole. A percentage requirement is not involved in the determination. As a rule, purple-mottled soybeans do not create a serious grading problem.—*H. D. Kurtz, acting chief, inspection branch, Agricultural Marketing Service, U. S. Department of Agriculture, Washington, D. C.*

Send for this new

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on cleaning and dehulling machinery

FOR SOY BEAN PLANTS

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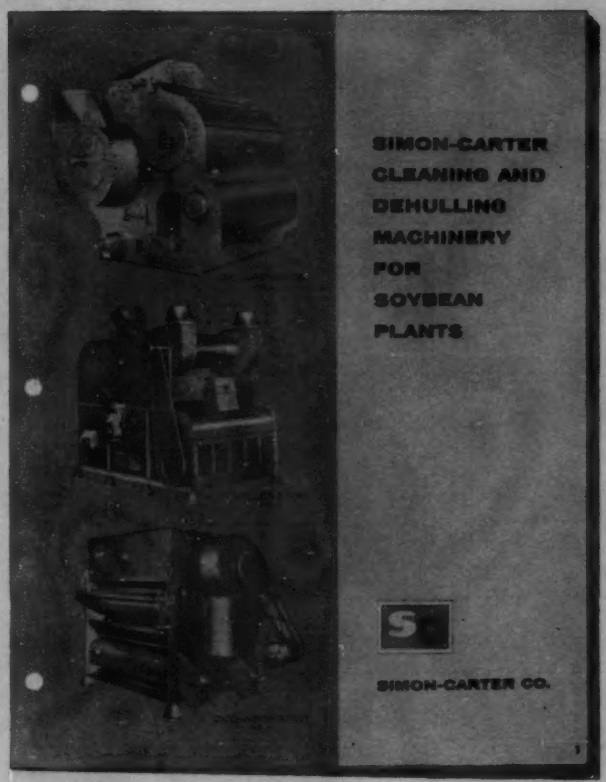
- Diagrams flow arrangement plans for both whole bean cleaning and dehulling operations.

Get all the facts on modernizing your cleaning and dehulling operations. Write for your free copy of this informative 8-page booklet today.



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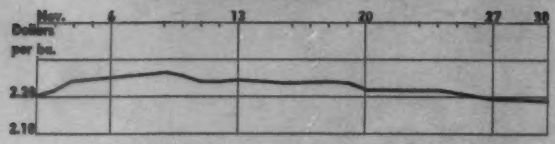
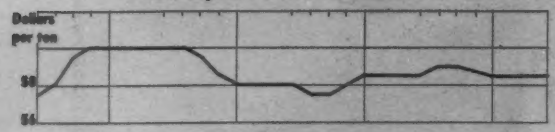
DAILY MARKET PRICES

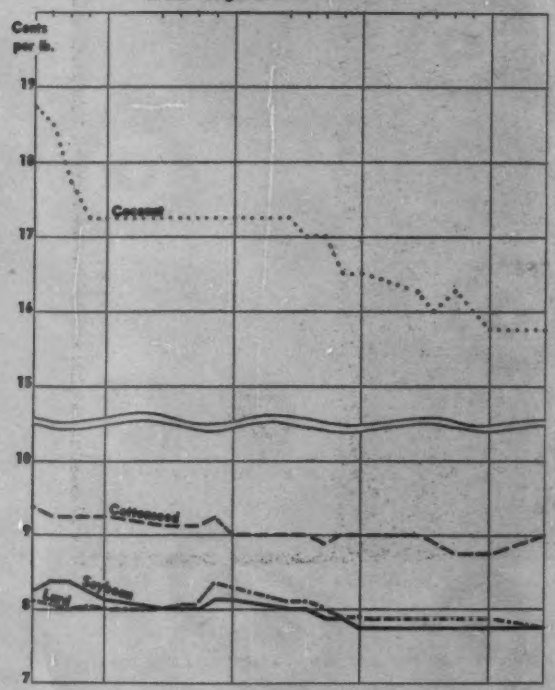
No. 1 Cash Soybeans, Chicago



Bulk Soybean Oil Meal, Decatur



Crude Vegetable Oils and Lard



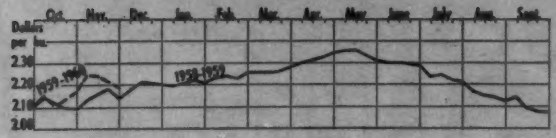
CASH PRICES NOVEMBER 1959*

Nov.	No. 1 yellow soybeans Chicago	Bulk soybean meal Decatur	Soybean oil Decatur	Cottonseed oil Mississippi Valley	Coconut oil Pacific Coast	Lard Chicago
2	$2.20	$57.50	$.08¼	$.09⅜	$.18¾	$.0812
3	2.21¾	58.00	.08⅜	.09¼	.18½	.0805
4	2.24	59.50	.08⅜	.09¼	.17¾	.0800
5	2.24½	60.00	.08¼	.09¼	.17¼	.0802
6	2.25	60.00	.08⅛	.09¼	.17¼	.0800
9	2.26	60.00	.08	.09⅛	.17¼	.0800
10	2.25½	60.00	.08	.09⅛	.17¼	.0802
11	2.24	59.50	.08	.09⅛	.17¼	.0805
12	2.24	58.50	.08⅛	.09¼	.17¼	.0835
13	2.24½	58.00	.08⅛	.09	.17¼	.0830
16	2.23	58.00	.08	.09	.17¼	.0810
17	2.23½	57.50	.08	.09	.17	.0810
18	2.24½	57.50	.07⅞	.08⅞	.17	.0800
19	2.23¾	58.00	.07⅞	.09	.16½	.0787
20	2.21½	58.50	.07¾	.09	.16½	.0787
23	2.21½	58.50	.07¾	.09	.16¼	.0787
24	2.21¾	59.00	.07¾	.08⅞	.16	.0787
25	2.20½	59.00	.07¾	.08¾	.16¼	.0787
27	2.19½	58.50	.07¾	.08¾	.15¾	.0787
30	2.19	58.50	.07¾	.09	.15¾	.0775

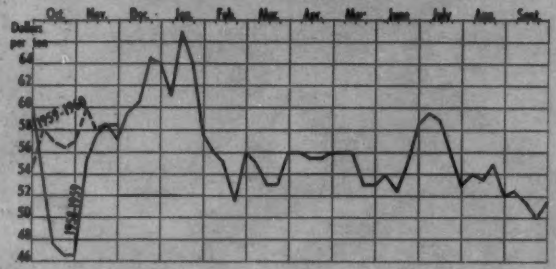
* From Wall Street Journal, Chicago

TRENDS AT A GLANCE (Weekly Close)

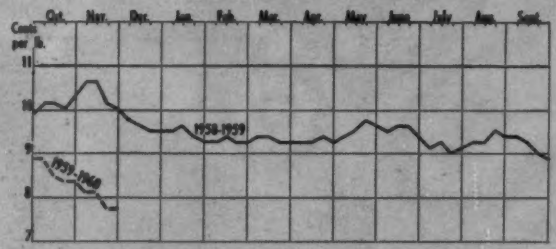
No. 1 Cash Soybeans, Chicago



Bulk Soybean Oil Meal, Decatur



Crude Soybean Oil, Tankcars



November Markets

SOYBEANS AND MEAL reached new highs for the season during November, but soybean oil was off, dropping to the lowest point since about 1941.

Factors in the market included:

1—The continued poor harvest season. Rainy spells were believed to have damaged and reduced the late harvest. This was offset, however, by a larger than expected Nov. 1 crop estimate by the U. S. Department of Agriculture.

2—Stepped-up European purchases of soybean oil meal attributed to European drought. Census Bureau reported soybean meal exports in September nearly double last year's volume.

3—Slow country sales of soybeans.

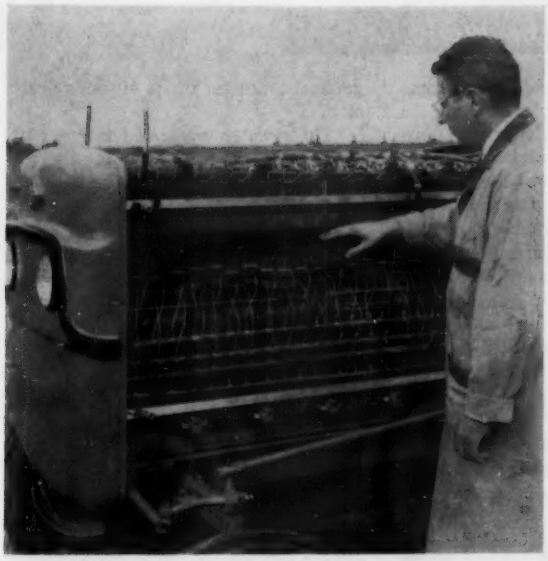
4—Rapid sales of Commodity Credit Corp. beans.

5—The stepped-up livestock feeding program generated by colder weather.

BYPRODUCTS. The price of soybean acid soap stock remained at 4¾¢ per pound during November. And raw soybean soap stock remained at 1½¢ per pound.

1958 AND 1959 SOYBEAN CROPS

	1959-60	1958-59
Total new crop soybeans under support Oct. 31	5,542,272 bu.	23,006,953 bu.
Total soybeans inspected for overseas shipment and lake shipments to Canada Oct. 1-Nov. 20	22,336,481 bu.	21,438,137 bu.
Soybeans crushed for oil or processed Oct. 1-31	35,340,000 bu.	33,470,000 bu.
Soybeans exported Oct. 1-31	10,000,000 bu.	12,053,000 bu.
Balance on hand Nov. 1 for processing, export or carryover	514,124,000 bu.	521,973,000 bu



T. G. KIRKLAND, a member of the research team that built the cells and installed them in Allis-Chalmers' engineless tractor, points to a unit of nine fuel cells.

Tractor Powered by Fuel Cells

A NEW SOURCE of electrical power—fuel cells—has come out of the laboratory to power a vehicle for the first time.

Allis-Chalmers recently demonstrated its fuel cell-powered tractor that could eventually revolutionize the tractor industry. The research vehicle develops at least 3,000 pounds of drawbar pull, enough to pull a multiple-bottom plow.

"Although our experimental fuel cell tractor is of commercial size," says Dr. H. K. Ihrig, director of research and a vice president of the company, "it still is a research vehicle. However, fuel cells of the future may provide electric power for homes and factories, vehicles such as trucks and buses, or even be used in military weapons or space vehicles."

The electricity that drives the tractor comes from 1,008 individual fuel cells. These are joined in 112 units of nine cells each. The 112 units are arranged in four banks and electricity can be taken from any combination of the banks.

The gases are fed into the cells through a system of tubing and, once in the cells, the gases react in an electrolyte. A catalyst coating the electrodes of each cell aids the reaction. The chemical reactions within the cells cause a direct current flow through an external circuit which is connected by bus bar to a standard controller.

The controller permits the tractor driver to regulate speed or reverse the tractor's direction by moving two levers. Using the speed control, the operator places the four banks of cells in series or parallel, varying the amount of current going to the motor.

To reverse the tractor, the driver moves the second lever, changing the polarity of the current flow to the motor. The tractor carries its gas supply in tanks mounted in brackets on the vehicle.

NEW PRODUCTS and SERVICES

SEPARATORS. An attractive eight-page bulletin describing a series of Westfalia Centrifugal Separators especially designed for the purification and dehydration of oils and fats has just been released by Centrico, Inc.

The new bulletin features detailed descriptions and cutaway drawings of Westfalia type OM, OLM, OSM and OSL Separators.

The series of centrifugal separators described in the new bulletin are useful in the polishing and dewatering of vegetable and animal oils and fats containing relatively small amounts of solids.

Type OLM is specially applicable in the recovery of lecithin from soybean oil and in the degumming of vegetable oils and animal fats. For alkali refining, the Westfalia OSM and OSL models have been widely specified.

For copies of the Bulletin No. 2480, write Soybean Digest 12b, Hudson, Iowa.

FEED STORAGE. Here's the newest in bulk feed storage and handling from Butler Manufacturing Co. The manufacturer says the new line of Bulk-O-Matic tanks are the only bulk tanks with hoppers specially designed to handle 1960 feeds.

The new Live-Bottom-Action hopper is a major improvement in bulk tank design. Available in both Butler standard center and side draw-off tanks and new smooth wall tanks, this hopper offers many advantages.

Flow characteristics of high-fat feeds are improved. There is no boot—no place for water to seep in and cause mold. Cleanout is fast, easy and complete. Contamination problems are minimized.

Butler Live-Bottom-Action tanks are available in 6-foot, 9-foot and 12-foot diameters, and from 2- to 27-ton capacities.

For further information write Soybean Digest 12a, Hudson, Iowa.

New Prochem Division Established by ADM

Because of the growing importance of protein chemurgy in food and industrial products, **Archer-Daniels-Midland Co.** has established a separate division to handle production and marketing of soy proteins and flours and industrial cereals.

Designated the Prochem division, it will be headed by Robert S. Mathews, ADM assistant vice president. The new division is part of ADM's specialty group under the direction of Richard G. Brierley, executive vice president.

With the formation of the new division, ADM will expand its research and production in the fields of soy proteins and related products, according to Mathews.

"The American consumer is demanding quality proteins to improve the nutritional value of foods," Mathews said. "With protein-fortified foods, the nutrition conscious public can improve diet without sacrificing palatability."

Robert S. Mathews

Proteins, soy flours and industrial cereals also are finding ever increased use in industrial products and processes, Mathews pointed out.

The new ADM division will include the company's isolated soy protein operations at Evendale, Ohio, managed by John S. Coppage; the industrial cereals department headed by Paul F. Werler, Minneapolis; and the soy flour department managed by James Sellner, Minneapolis.

Mathews, manager of the new ADM division, formerly headed the company's vinyl plasticizer department.

Announce Retirement Of Banton of Ferrell

Robert Fry

Ronald Banton

Ronald Banton, vice president and general sales manager of **A. T. Ferrell & Co.**, Saginaw, Mich., is retiring from the firm after 21 years of service, according to Elden L. Kaylor, company president.

Mr. Banton will continue to serve the company on special assignment as company consultant.

Other executive changes announced by Mr. Kaylor include the election of Robert Fry as vice president, and Warren Light as secretary. Mr. Fry will retain the position of plant manager. Mr. Light continues to head the purchasing department.

Responsibilities of the sales department will be shared by sales managers James Henderson and Richard Carr. Mr. Henderson retains his position as export sales manager.

McAdam Oil Representative For General Mills in N. Y.

The oilseeds division of **General Mills** has appointed T. F. McAdam, Inc., 103 Cornelia Street, Boonton, N. J., as sales representative for General Mills' technical grades of soybean and safflower oils in the New York City area. Tom McAdam, president of T. F. McAdam, Inc. and Paul McClay, vice president, are well-known figures in the protective coatings and allied trades in the Eastern States, said Sewall D. Andrews, Jr., General Mills vice president and general manager of its oilseeds division.

"The greatly expanded interest in safflower oil for special paint alkyds, coupled with the importance of good service on soybean oil, makes this an advantageous arrangement for our customers in the region," Andrews added. "The McAdam-McClay team will strive to render personalized attention to all tankcar and tanktruck buyers of refined, blown, and technical soybean and safflower oils in the Greater New York area."

Albert Dimond Joins Farmer City, Ill., Co.

Albert Dimond, well-known Lovington, Ill., farmer and a past president of the American Soybean Association, has been retained as a foreign sales advisor by **Farmer City Grain Co.**, Farmer City, Ill., L. O. West, president of the company has announced. Mr. Dimond has become a stockholder of the company.

Albert Dimond

Mr. Dimond has been prominent in American Soybean Association activities for many years. He was in charge of U. S. soybean exhibits at international trade fairs in Tokyo and Osaka, Japan. in 1957 and 1958.

Mr. West was in Japan in November following several recent shipments of soybeans made by the Farmer City firm and bound for the food industries there. These shipments were made in cooperation with Mitsui & Co., a Japanese export-import firm.

Mr. Dimond is a member of the advisory committee of the agricultural economics department of the University of Illinois and the Moultrie County Board of School Trustees.

During the past 3 years Farmer City Grain Co. has become active in foreign sales of soybeans. Other stockholders with West are Paul Durbin, Ralph Daugherty and James Lamb.

Dimond and his family will continue to live at Lovington. He and his son, William, farm 920 acres of land near there.

Dannen Renews Soybean Grant to Missouri U.

The renewal of a $5,000 grant for soybean research to the agricul-

tural experiment station of the University of Missouri by **Dannen Mills** was announced by Dwight L. Dannen, president of the St. Joseph feed milling and soybean processing concern.

Under the preliminary agreement reached with J. Ross Hicetwood, extension specialist of the university, and later approved by the board of curators, the Dannen firm will contribute $1,000 per year for 5 years toward the research program. The St. Joseph concern began its assistance of the long-range soybean study program in 1954.

River Terminal in Iowa Soya Expansion

The Iowa Soya Co., Redfield, has expanded its grain buying operations to include its terminal at Muscatine, according to an announcement by Donald Ogg, Iowa Soya vice president.

The Muscatine terminal which is located on the Mississippi River just south of the city has a 100,000-bushel capacity which is served by a 50-foot truck dump and a 7,000-bushel-an-hour elevator leg. A 24-inch belt conveyor is used to unload grain tanks to barges as well as from bulk barges to rail cars.

Richard Melson, Muscatine River terminal manager, said that 1,500 feet of railroad track was constructed from the Rock Island branch lines to serve the dock and bag warehouse operations. The storage tanks are especially designed to handle either grain or liquid.

The River terminal, which has been in operation 2½ years, ships barge loads of crude and refined soybean oil, soybean meal, wheat flour and corn to various points on the Mississippi, Tennessee and Ohio rivers and to New Orleans for export.

The merger of **Eastern States Petroleum & Chemical Corp.** with and into Signal Oil & Gas Co., a Delaware corporation, has been effected. The business of Eastern States will be conducted within a division of Signal known as Eastern States Petroleum & Chemical Co.

The three top winners of the 1959 sales contest for salesmen of **R. J. Brown Co.** were E. T. Allen, Memphis; John S. Reeves, Detroit; and R. H. Galambos, Lansing, Mich.

Address of **Victory Soya Mills, Ltd.,** has been changed from 285 Fleet St. E., to 333 Lake Shore Blvd. E. It is still the same location.

The Institute of **Shortening and Edible Oils, Inc.,** has announced the removal of its offices to new quarters at 2000 K St. N. W., Washington 6, D. C.

Screw Conveyor Corp., Hammond, Ind., announces the election of Martin M. McGuire as vice president of its wholly owned subsidiary, Screw Conveyor Pacific Corp. Mr. McGuire joined Screw Conveyor Corp. in 1955 serving as district sales manager in the Michigan, Ohio, Indiana and Kentucky territory.

The promotion of Douglas Fleming to the position of staff assistant to the director of feed sales has been announced by **McMillen Feed Mills,** Fort Wayne, Ind. He will work on special assignments out of the Fort Wayne office. Mr. Fleming joined the company in 1954.

Prater Pulverizer Co. has appointed the Patty Mill Equipment Co. headed by Richard M. Patty, Marshalltown, Iowa, to the territory of Iowa, west of highway 69. Mr. Patty was active as a feed dealer for 10 years in Perry, Iowa, and served another 10 years as a feed salesman out of Marshalltown, for a leading feed manufacturer. He is, therefore, well qualified to plan and organize feed mill engineering and construction projects.

Ohio Valley Soybean Cooperative, Henderson, Ky., recently elected the following officers: O. D. Keck, Mt. Vernon, Ind., president; Harry Gatton, Jr., Rumsey, Ky., vice president; A. I. Reisz, Henderson, secretary-treasurer; and David Frymire, Henderson, assistant secretary-treasurer.

The 25th annual Chemurgic Conference will be held at the Sheraton-Park Hotel, Washington, D. C., Mar. 16-18, John W. Ticknor, assistant to the president and treasurer of the **Chemurgic Council,** New York, has announced. Discussions at the silver anniversary will cover chemurgic progress, new crops and improved uses for old crops.

William L. Scharnberg, vegetable oil traffic manager for **Cargill, Inc.,** has been named director of all company traffic operations in the Cedar Rapids, Iowa, area. He will coordinate grain and commodities shipments between Cargill and its livestock and poultry feed subsidiary, Nutrena Mills.

Arnold M. Gavin has recently joined the staff of **Engineering Management, Inc.,** Park Ridge, Ill. Mr. Gavin was formerly general manager of the Chicago Refining Corp. and manager of the fats and oils division of Podbielniak, Inc. In his new position he will be engaged in consulting and engineering design of fats and oils processing facilities.

Industry Questions USDA's Figures

By PORTER M. HEDGE
Washington Correspondent for
The Soybean Digest

THE DEPARTMENT of Agriculture recently wound up a lusty farm outlook conference at which USDA career men laid their findings on the line and often produced spirited discussions and sometimes public disagreement over prospects.

This was particularly true of the session on fats and oils where the discussion was lively enough to heighten interest.

Briefly, a number of members of the fats and oils industry think USDA's picture of crush and export prospects for the 1959-60 marketing year is optimistic. USDA officials, laying no claim to infallibility, feel they have made an honest assessment of the outlook and are standing their ground.

The official outlook estimates of soybean supply and use are about as reported in recent weeks, though the very early calculations of export of oils have been tapered down as the result of later information.

Out of the total soybean supply of 590 million bushels, exports of 125 million bushels are expected. Domestic crush is presently placed at 400 million bushels. Use for feed and seed on farms is put at 30 million bushels, yielding a prospective carryover in the fall of 1960 of close to 35 million bushels. This is roughly half the carryover this fall.

Exports of edible soybean and cottonseed oils combined are rounded at 1.3 billion pounds, with soybean oil taking a smalier part of the total.

During the season just closed 930 million pounds of soybean oil were exported and 405 million pounds of cottonseed. A rough estimate of the division this season is 650 million pounds each. This is preliminary.

Industry members at the outlook meeting questioned two main points: Most of them felt the figures on edible oil and protein meal exports were too high. Most of them felt the estimate of a 400-million-bushel crush was optimistic.

Some of the industry representatives felt the effects of drought in western Europe had been overplayed. They argued that the worst of these needs already had been met unless new emergency requirements develop.

USDA officials are willing to concede certain points, though they are standing by their general assumptions until new information supports a change.

P. L. 480 Program

USDA men say the estimates of P. L. 480 program oil shipments "may have a little water in them." Argentina is cited as an example. This country earlier indicated it would need a large volume of oils. It now indicates it will take little U. S. oil. P. L. 480 exports to that country have been scaled down by more than two-thirds for the coming season.

Turkey is scheduled for a large 480 oil program and there are difficulties in arranging financing. On the other hand, USDA's Foreign Agricultural Service men say allowance has been made for the prospective large olive oil crops in Spain, Italy, and Greece. Their reports indicate other sources of foreign supply for oils in any substantial amounts are limited.

Soybean oil is now highly competitive with other oils in Europe. USDA officials think this will continue for some time. Cottonseed oil there is selling under copra. There is some question whether Red China will be able to export as many beans in view of crop difficulties in the country.

Size Of Crush

A key policy question is involved in the discussion: Whether the soybean crush is to be based on demand for meal or demand for oil. If based on meal, a crush of around 415 million bushels could be justified, officials estimate. If based on demand for oil alone, a crush of about 385 million bushels could be justified.

Domestic use of soybean oil is expected to total about the same as last year, since there is greater competition from other fats. A crush of 400 million bushels would yield about 1 billion pounds of oil above domestic requirements.

If soybean oil exports total close to 650 million pounds, there would be a "surplus," or carryover above needs, of 350 million pounds.

One of the questions is how much of the extra supply of oil other countries can be induced to carry themselves. USDA officials think soybean oil will be competitive enough this year that some oil is likely to be stockpiled by other countries abroad.

There is one other element in the picture. Considerable pressure is being brought to bear on USDA to take some supporting action in the fats and oils field. One suggestion is to provide surplus oil for a donation program, either in this country or abroad. Another is that Commodity Credit Corp. might take some oil in its inventory to assure a large crush and ample protein meal supplies.

Latest figures indicate that P. L. 480 exports of edible oils last year totaled 890 million pounds, and 385 million pounds went for dollars. The balance of around 70 million pounds was shipped by International Cooperation Administration.

In the coming season commercial exports are expected to rise by approximately the amount P. L. 480 shipments go down. Some decline in ICA shipments also is expected at this stage.

Price Outlook

The official estimate of soybean prices for the year is a shade above the $2 average for last season. There are a few officials who think the total supply of oils is large enough that growers shouldn't get too bullish, and the price of soybeans may drop to around support level at some time during the marketing year. This does not invalidate the prospect for a season's average price of over $2.

Protein meal prices at about the level of the 1958-59 season are the forecast. European demand for meal is expected to keep meal exports up. The number of animal units to be fed in this country will be higher. The outlook for dairy product prices is good for 1960, though bearish after next year.

Small price improvement is expected in eggs and broilers—if the industry does not respond to this prospect with too much enthusiasm. Hog prices are expected to remain relatively low. Cattle numbers are building up. A break in cattle prices, perhaps a serious one, is anticipated either late in 1960 or in 1961. This would affect all livestock prices, including dairy, as well as the feed industry.

Soybean meal of 50% protein has been growing in importance, George Kromer of the Agricultural Marketing Service says in the 1959-60 outlook report.

"Because of its low-fiber and high-protein content, it has become an important protein feed in broiler rations. During the period 1955-56 to 1958-59, 50% solvent soybean meal has averaged about $7.30 per ton higher than 44% solvent meal at Decatur, bulk, unrestricted basis. This difference narrowed from $8.30 per ton in 1955-56 to $5.80 in 1958-59.

"Some of this decline in the price spread," Kromer says, "probably reflects increasing production of 50% meal and increasing efficiency of producing the higher protein meal, permitting lower cost in processing."

Kromer quotes trade estimates as indicating soybean crushing capacity at about 500 million bushels for the 1959-60 season compared with 450 million last season.

"This means there will be more unused crushing capacity during the year ahead in relation to the quantity of beans available for crushing than in 1958-59," he says. "This will result in increased competition for beans."

To the extent that soybean acreage is influenced by the relationship between price support rates for corn and beans, there may be some increase in soybean acreage next year.

This is suggested in USDA feed and fats and oils outlook reports. Indications now are that the 1960 support rate for corn will be determined by the 65%-of-parity minimum rather than 90% of the 3-year average farm price.

Parity for corn will complete its transition down to the modernized parity next year. Modern parity is now about $1.64 a bushel. The 65% rate for corn would be $1.07. The support rate this year averages $1.12. Any shift in the relationship between corn and soybean support would depend on whether soybean loan rates were adjusted, or maintained at the current level.

Correction

John Maloney of the National Cottonseed Products Association, Inc., of Memphis calls attention to a statement in this space in the October issue which said an amendment to the P. L. 480 law by Senator Hubert Humphrey of Minnesota *required* USDA to buy fats and oils for foreign donation, if necessary to maintain price support levels.

He correctly pointed out that the law *authorizes* such purchases, rather than requires them. As initially introduced, purchases would have been required. There was some debate, aiming at establishing intent to make purchases necessary. But as finally passed the law gives the Secretary of Agriculture authority to purchase rather than requiring him to.

Edible Oil Plant At Teheran, Iran

THE DESIGN, engineering and equipping of a 30-metric-ton-per-day edible oil plant said to be the most modern in Iran and the entire Middle East has been undertaken by Girdler process equipment division of Chemetron Corp., Louisville, Ky.

- MARKET STREET -

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IN THE MARKETS

PROCESSING OPERATIONS. Reported by Bureau of the Census for September and October 1959.

Primary products except crude oil at crude oil mill locations: Production, shipments and transfers, and stock, October 1959-September 1959 (1,000 tons)

	Production		Shipments and transfers		Stocks end of month	
	October 1959	September 1959	October 1959	September 1959	Oct. 31, 1959	Sept. 30, 1959
Soybean:						
Cake and meal	809.2	635.3	790.7	677.7	72.6	54.1
Millfeed (hull meal)	13.3	11.9	13.5	12.6	4.2	4.4

Soybeans: Net receipts, crushings, and stocks at oil mills, by states, October 1959-September 1959 (1,000 tons)

	Net receipts at mills[1]		Crushed or used		Stocks at mills	
	October 1959	September 1959	October 1959	September 1959	Oct. 31, 1959	Sept. 30, 1959
U. S.	2,677.5	1,072.4	1,060.2	823.8	2,367.8	750.5
Arkansas	73.4	12.7	14.3	10.0	67.7	8.6
Illinois	789.6	483.5	371.8	290.2	717.0	299.1
Indiana	293.3	111.4	96.7	(2)	296.9	100.3
Iowa	422.6	125.3	180.1	154.5	329.6	87.1
Minnesota	116.0	48.2	69.0	59.7	53.3	6.3
Mississippi	84.5	(2)	23.2	(2)	72.2	10.9
Missouri	(2)	43.0	(2)	(2)	139.7	48.5
Nebraska	(2)	(2)	(2)	(2)	(2)	(2)
North Carolina	(2)	1.2	(2)	8.7	(2)	(2)
Ohio	386.5	103.3	107.0	82.6	362.4	82.9
Tennessee	214.9	39.4	86.0	66.2	149.5	20.7
All other	296.7	104.4	112.1	151.9	179.5	86.1

Note: Detail figures may not add to totals because of independent rounding. [1] Net receipts for each state are derived from the quantity of beans crushed and net change in stocks. [2] Included in "All other" to avoid disclosure of figures for individual companies.

Soybean products: Production and stocks at oil mill locations, by states, October 1959-September 1959

	Crude oil (millions of pounds)				Cake and meal (thousands of tons)[1]			
	Production		Stocks		Production		Stocks	
	October 1959	September 1959	Oct. 31, 1959	Sept. 30, 1959	October 1959	September 1959	Oct. 31, 1959	Sept. 30, 1959
U. S.	391.2	296.9	95.2	80.0	822.5	647.2	76.8	58.5
Arkansas	4.7	3.7	0.7	(2)	11.0	8.2	1.2	0.9
Illinois	140.4	106.5	32.6	33.5	281.3	220.9	23.1	16.6
Indiana	36.0	(2)	4.8	(2)	76.0	(2)	6.7	(2)
Iowa	65.0	55.7	17.2	8.4	143.5	126.2	14.4	9.3
Minnesota	25.3	21.0	8.2	7.6	53.8	47.7	5.8	3.0
Mississippi	8.3	(2)	2.0	(2)	17.6	(2)	1.8	0.9
Missouri	(2)	(2)	1.8	(2)	(2)	(2)	(2)	(2)
Nebraska	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
N. Carolina	(2)	3.0	(2)	(2)	(2)	6.8	(2)	0.8
Ohio	40.0	28.6	10.5	9.2	84.1	66.5	7.0	3.6
Tennessee	30.6	23.6	6.7	8.5	66.6	51.4	5.2	4.0
All other	40.9	54.8	10.7	12.8	88.6	119.5	11.6	19.4

Note: Detail figures may not add to totals because of independent rounding. [1] Includes millfeed (hull meal). [2] Included in "All other" to avoid disclosure of figures for individual companies.

Soybeans: Quantity processed at mills, United States, 1952-59 (1,000 bu.)

	1958-59	1957-58	1956-57	1955-56	1954-55	1953-54	1952-53
October	33,470	28,084	27,928	25,388	21,735	21,284	22,507
November	33,530	29,227	26,591	25,394	22,198	20,284	21,997
December	34,443	28,417	26,988	23,869	21,181	20,758	21,397
January	36,687	31,091	28,419	24,445	21,483	20,778	21,550
February	33,967	27,104	26,622	24,528	19,777	18,873	18,679
March	36,010	30,850	28,919	25,365	19,525	19,252	20,437
April	34,583	31,477	27,328	25,259	20,030	17,649	19,201
May	36,387	32,208	26,476	24,600	21,012	17,546	20,670
June	33,157	28,706	24,693	22,230	22,119	15,437	17,291
July	31,913	29,956	24,354	20,378	21,347	15,362	16,338
August	29,627	31,620	25,387	21,793	19,891	14,795	18,684
September	27,460	25,065	22,245	19,877	18,712	11,140	15,653
Total	401,234	353,805	315,950	283,126	249,010	213,158	234,404

Bureau of the Census

PRICES. Average prices for soybeans received by farmers, effective parity, and support rates, reported by Agricultural Marketing Service (dollars per bushel).

Average farm price			Effective parity	Av. price as percent of parity	National average price support rate		
Oct. 15, 1959	Sept. 15, 1959	Oct. 15, 1958	Oct. 15, 1959	Oct. 15, 1959	1959 crop	1958 crop	1957 crop
1.93	1.90	1.93	2.88	67	1.85	2.09	2.09

Average farm and parity prices from crop reporting board.

Soybean prices compared with market value of soybean oil and meal

	Soybean oil: Average price at crushing plant Cts. per pounds	Soybean oil: Value from bu. of soybeans[1] Dollars	Soybean meal: Bulk price at Decatur Dollars per bu.	Soybean meal: Value from bu. of soybeans[1] Dollars	Value of oil and meal from bu. of soybeans[1] Dollars	Market price No. 1 yellow soybeans Ill. pts. Dollars per bu.	Spread between soybean price and value of oil and meal Cents
Oct. 1959	8.6	0.95	56.60	1.33	2.28	2.01	27
Sept. 1959	9.1	1.00	51.70	1.21	2.21	1.98	23
Aug. 1959	9.3	1.02	54.25	1.27	2.29	2.07	22
July 1959	9.1	1.00	58.50	1.37	2.37	2.15	22
June 1959	9.5	1.04	54.80	1.29	2.33	2.20	13
Oct. 1958	10.2	1.12	50.60	1.19	2.31	2.01	30
Sept. 1958	9.8	1.08	59.70	1.40	2.48	2.08	40

[1] Based on assumption that a bushel of soybeans yields 11.0 pounds of oil and 47.0 pounds of meal. Note: This table is for statistical comparison only. It does not reflect actual operating margins since prices are simple averages and do not take into account location differentials or actual purchases and sales of soybeans, soybean oil or soybean meal.

FACTORY USE VEGETABLE OILS for August and September 1959. Reported by Bureau of the Census.

Edible oils: Production, consumption, and factory and warehouse stocks, September and August 1959 (million pounds)

	Cottonseed oil		Soybean oil	
	Sept. 1959	Aug. 1959	Sept. 1959	Aug. 1959
Production:				
Crude oils	163.4	50.3	296.9	318.6
Refined oils[1]	103.7	51.2	236.8	283.1
Consumption in refining[1]	110.4	53.6	246.5	292.0
Consumption in selected edible and inedible products,[2] total	87.8	75.7	258.9	268.5
Consumption in edible products, total	87.4	75.3	241.9	251.5
Baking or frying fats	27.8	24.6	97.7	91.0
Salad or cooking oil	49.0	40.9	51.3	76.0
Margarine	9.1	8.4	89.1	81.0
Other edible products[3]	1.5	1.4	3.8	3.5
Stocks, end of month,[2] total	203.4	166.1	298.3	386.6
Crude oils	75.3	36.3	150.7	188.5
Refined oils	128.1	129.8	147.6	198.1

Note: Total consumption of oils in each end product may exceed sum of detail since only major edible oils are shown separately. [1] Production of refined oils covers only once-refined oil. Degummed soybean oil is reported as crude oil. [2] Includes hydrogenated fats and other fats and oils "in process," (e.g. refined cottonseed includes stocks of stearin). [3] Includes confectioners fats.

Consumption of vegetable oil foots in fatty acids (million pounds)

Total consumption[1]				Used in fatty acids				Percent used in fatty acids			
		Cum.:				Cum.:				Cum.:	
September 1959	1958	Jan.-Sept. 1959	1958	September 1959	1958	Jan.-Sept. 1959	1958	September 1959	1958	Jan.-Sept. 1959	1958
12.3	16.6	111.9	112.4	8.1	9.0	72.3	58.2	66%	54%	65%	52%

[1] Excluding amounts consumed in refining. Source: U. S. Bureau of the Census.

INSPECTIONS. Soybeans inspected by grade and percent, reported by Agricultural Marketing Service.[1]

	October 1959[2]		September 1959		October 1958	
	1,000 bu.	Pct.	1,000 bu.	Pct.	1,000 bu.	Pct.
No. 1	20,150	21	8,708	19	29,864	23
No. 2	49,585	52	23,741	51	61,477	47
No. 3	18,579	20	7,881	17	25,357	20
No. 4	4,975	5	4,413	9	10,026	8
Sample	1,978	2	1,706	4	2,488	2
Total	95,267	100	46,449	100	129,212	100

[1] Carlot receipts have been converted to bushels on the basis that 1 carlot equals 1,750 bushels. [2] Of the October receipts, 650 bushels were black and the remainder yellow soybeans. Inspections of soybeans in October included 8,731,282 bushels as cargo lots, 7,782,010 bushels as truck receipts, and the balance as carlot receipts.

CAKE AND MEAL. Supplies of oilseed cake and meal for 1959-60 are expected to total a little over the 12.6-million-ton supply in 1958-59, according to Agricultural Marketing Service. Production is expected to exceed the 12.3 million tons produced in 1958-59, probably by around 500,000 tons or more. A large part of this increase will be in cottonseed meal. Carryover stocks of the five oilseed meals on Oct. 1 totaled 190,000 tons, more

than a fourth above a year ago. Imports are expected to decline from the 168,000 tons of 1958-59. Exports in 1959-60 probably will be heavier than in 1958-59 when about 527,000 tons were exported. The drought this fall in a number of European countries will increase the demand for oil meal and other feedstuffs. Allowing for larger exports in 1959-60 and about the same level of carryover on Oct. 1 next year as this, the quantity of oilseed meal available for feeding would be about 3% larger than in 1958-59.

Oilseed cake and meal: Estimated use for feed, year beginning October, average 1953-57, annual 1954-59[1] (1,000 tons)

	Average 1953-57	1954	1955	1956	1957	1958[2]	1959[3]
Soybean cake and meal	6,298	5,428	6,042	7,093	7,962	8,968	9,000
Cottonseed cake and meal	2,431	2,405	2,511	2,220	2,095	2,221	2,550
Linseed cake and meal	481	488	439	484	467	431	425
Peanut cake and meal	40	18	27	46	45	75	75
Copra cake and meal	181	182	160	181	187	148	150
Total	9,431	8,521	9,179	10,024	10,756	11,843	12,200

[1] Estimated use for feed is derived by adding production and imports; deducting exports, utilization for food and other nonfeed uses, and adjusting for changes in stocks of cottonseed, soybean, linseed, peanut and copra cakes and meals. [2] Preliminary. [3] Preliminary estimates based on indication in October 1959.

High-protein feeds: Quantity available for feeding, high-protein feed-consuming animal units, and quantity per animal unit, United States, average 1953-57, annual 1950-59

Year beginning Oct. 1	Quantity available for feeding (in terms of 44% protein soybean meal equivalent)[1] Oilseed meal: Soybean meal 1,000 tons	Other oilseed meals[2] 1,000 tons	Total 1,000 tons	Animal protein 1,000 tons	Grain protein 1,000 tons	Total 1,000 tons	Animal units fed annually Million units	Quantity per animal unit Pounds
Average 1953-57	6,298	2,418	8,716	3,030	859	12,605	102.4	246
1950	5,546	2,251	7,797	2,466	1,069	11,332	101.3	224
1951	5,527	2,697	8,224	2,638	817	11,679	102.0	229
1952	5,455	2,624	8,079	2,657	767	11,503	100.2	230
1953	4,965	2,876	7,841	2,955	826	11,622	100.2	232
1954	5,428	2,381	7,809	2,977	853	11,639	101.5	229
1955	6,042	2,429	8,471	3,264	897	12,632	104.2	242
1956	7,093	2,257	9,350	3,061	857	13,268	103.1	257
1957	7,962	2,146	10,108	2,914	859	13,881	103.0	270
1958[3]	8,968	2,234	11,202	3,027	890	15,119	107.3	282
1959[3]	9,000	2,494	11,494	2,995	869	15,358	109.0	282

[1] Conversion factors to obtain quantity available for feeding in terms of soybean meal equivalent and animal units fed annually are given in the Grain and Feed Statistics, March 1959. [2] Cottonseed, linseed, peanut and copra meals. [3] Preliminary.

Oilseed cakes and meals: Supply and distribution, United States, year beginning October, 1957-59 (1,000 tons)

	Supply: Stocks (Oct. 1)[1]	Production	Imports	Total	Distribution: Feed	Other uses[2]	Exports	Stocks (Sept. 30)[1]
1957-58								
Soybean	55	8,284	1	8,340	7,962	30	300	48
Cottonseed	210	1,922	72	2,204	2,096	30	7	71
Linseed	64	435	8	507	467	....	14	26
Peanut	3	45	.....	48	44	....	2	2
Copra	1	119	68	188	187	....	.....	1
Total	333	10,805	149	11,287	10,756	60	323	148
1958-59[3]								
Soybean	48	9,508	.....	9,556	8,968	30	500	58
Cottonseed	71	2,154	130	2,355	2,221	30	7	97
Linseed	26	452	6	484	431	....	20	33
Peanut	2	75	.....	77	75	....	.....	2
Copra	1	115	32	148	148	....	.....	(4)
Total	148	12,304	168	12,620	11,843	60	527	190
1959-60[3]								
Soybean	58	9,700	.....	9,758	9,000			
Cottonseed	97	2,650	50	2,797	2,550			
Linseed	33	425	10	468	425			
Peanut	2	75	.....	77	75			
Copra	(4)	110	40	150	150			
Total	190	12,960	100	13,250	12,200			

[1] Stocks at processors' plants. [2] Estimated quantities of soybean meal used for industrial purposes and cottonseed meal used for fertilizer on farms of cotton growers. [3] Preliminary. [4] Not reported on Oct. 1.

MELLORINE. October production of mellorine and other frozen desserts made with fats and oils other than milkfat was estimated at 3,340,000 gallons, the U. S. Department of Agriculture reports. This output was 11% above October 1958 and 36% more than the 5-year average for the month. The cumulative January-October production was 9% greater than the 10-month total of last year and 39% higher than the average for the period.

Compared with October 1958, mellorine production was up sharply in Illinois, Missouri, Arkansas, Texas, and Oregon. A moderate gain occurred in California. Output decreased in Louisiana, Oklahoma and Montana.

Production of "mellorine-type" frozen desserts, United States 1959

	1953-57 average[1]	1957[1]	1958[1]	Estimated 1959	Change from: 1953-57 av.	Change from: 1958
	Thousand gallons				Percent	
January	1,626	1,945	2,238	2,325	+43	+ 4
February	1,852	2,187	2,335	2,505	+35	+ 7
March	2,373	2,512	2,759	3,440	+45	+25
April	2,568	2,866	3,415	3,685	+43	+ 8
May	3,051	3,520	4,105	4,335	+42	+ 6
June	3,534	3,591	4,382	4,955	+40	+13
July	3,742	4,361	4,766	5,125	+37	+ 8
August	3,610	4,034	4,459	4,635	+28	+ 4
September	2,945	3,024	3,808	4,180	+42	+10
October	2,457	2,491	3,015	3,340	+36	+11
Ten-month total	27,768	30,531	35,282	38,525	+39	+ 9

[1] From enumerations.

EXPORTS. Preliminary data on U. S. exports of soybeans and soybean products for September 1959, with comparable data for September 1958 and 12-month totals for the marketing years 1957-58 and 1958-59, from Foreign Agricultural Service, U. S. Department of Agriculture.

	Unit	September 1958	September 1959	October-September 1957-58	October-September 1958-59
Soybeans	bu.	1,649,219	6,714,040	85,507,173	110,072,103
Soybean oil:					
Crude	lb.	20,988,411	100,183,182	222,839,086	509,801,249
Refined but not further processed	lb.	33,922,247	24,425,376	159,366,931	112,262,678
Refined, deodorized and hydrogenated	lb.	48,690,267	10,797,594	421,779,372	308,375,351

Cottonseed and soybean oils and lard: Exports under Title 1, P. L. 480 programs, and total exports, October 1954-September 1959 (million pounds)

	Oct. 1-Sept. 30 1954-55	1955-56	1956-57	1957-58	1958-59
Exports under P. L. 480:					
Cottonseed	117	291	55	97	[2]173
Soybean	.....	279	495	592	[2]752
Total oils	117	570	550	689	[2]925
Lard	.....	112	65	3	.....
Total exports:					
Cottonseed	[3]710	[3]611	423	248	[4]450
Soybean	50	557	807	803	[4]900
Total oils	760	1,168	1,230	1,051	[4]1,350
Lard	528	663	530	394	[4]523

[1] The Department of Agriculture reports exports of agricultural commodities under Title I of P. L. 480 based on the date a commodity is placed "on board" the carrier. The Bureau of Census figures include shipments in the month covering the date when the carrier on which the shipment leaves United States departs, or is cleared from the port at which the merchandise was ladened on such carrier. Hence, for any given month the reports from these two sources may differ. [2] Preliminary. [3] Includes foreign donations under Section 416, Title III, P. L. 480. [4] September exports estimated.

Soybeans: Inspections for export by ports and country of destination October 1958-September 1959 (1,000 bu.)

	Atlantic			Gulf			Total	
	Philadelphia	Baltimore	Norfolk	New Orleans	Mobile	Port Allen	1958-59	1957-58
Canada	....	....	....	....	....	....	14,228	9,929
Cuba	....	....	....	154	....	....	310	....
Norway	72	413	253	373	....	....	1,322	1,152
Denmark	....	431	371	1,964	1,098	690	4,945	4,595
United Kingdom	390	594	652	130	....	....	2,111	1,952
The Netherlands	411	3,041	3,125	7,355	6,815	1,345	22,941	17,410
Belgium & Luxembourg	....	307	37	827	318	331	1,820	3,152
France	....	215	....	635	271	....	1,121	283
West Germany	187	444	647	5,648	2,185	483	10,373	8,702
Italy	....	670	....	576	....	....	1,324	71
Israel	349	808	690	2,196	992	....	5,035	3,308
Philippines	....	....	....	....	....	....	....	15
Korea	....	....	....	1,432	....	....	1,432	1,968
Hong Kong	21	62	19	53	....	....	212	....
Taiwan (Formosa)	....	....	2,001	561	220	680	3,462	3,867
Japan	589	894	383	17,407	2,119	15,693	37,121	27,729
Venezuela	....	....	....	107	....	....	107	....
Morocco	....	....	334	....	....	....	334	228
Okinawa	....	30	....	....	....	....	30	....
West Indies	....	....	....	66	....	....	66	....
Other	....	....	....	626	360	....	1,061	397
Total 1958-59	2,019	7,909	8,512	40,110	14,378	19,222	109,355	....
Total 1957-58	1,185	5,623	6,232	46,156	5,478	11,931	....	86,534

Data are based on weekly reports of inspections for export by licensed inspectors and do not include rail or truck movement to Canada or Mexico. In some cases the ultimate destination of the soybeans exported is not shown on the inspection reports; therefore, the quantity of each country may vary from official Census data, which are based on custom declarations. Included in totals are following total shipments from Great Lakes ports: 1958-59: Chicago 11,087; Toledo 4,810; Saginaw 556; Superior 279. 1957-58: Chicago 7,278; Toledo 2,552; Saginaw 99; Superior 0. Also, from Atlantic ports: 1958-59: Morehead City, N. C. 473.

Title I, P. L. 480 exports for July-October

	October 1959		July 1959-October 1959	
	Metric tons	Quantity in pounds	Metric tons	Quantity in pounds
Cottonseed oil	2,878	6,344,000	51,634	113,834,000
Soybean oil	15,606	34,406,000	125,543	276,776,000

TERMINAL STOCKS. Agricultural Marketing Service's commercial grain stocks reports for close of business on Friday or Saturday preceding date of report (1,000 bu.)

	Oct. 27	Nov. 3	Nov. 10	Nov. 17
U. S. soybeans in store and afloat at domestic markets				
Atlantic Coast	1,087	3,031	1,895	2,507
Gulf Coast	1,548	1,656	1,271	3,055
Northwestern	119	807	1,054	1,552
Lower Lake	13,105	15,583	16,757	17,607
East Central	7,714	8,865	9,770	10,332
West Central and Southwestern	2,770	3,561	3,856	4,142
Total current week	26,343	33,503	34,603	39,195
Total year ago*	31,860	38,989	42,046	45,631
U. S. soybeans in store and afloat at Canadian markets				
Total current week	329	549	541	449
Total year ago*	216	218	282	240

	Oct. 27	Nov. 3	Nov. 10	Nov. 17
Total stocks in above positions				
Current week	26,672	34,052	35,144	39,644
Year ago*	32,076	39,207	42,329	45,871

Includes all soybeans in public elevators, including government-owned stocks, at 45 principal markets. Does not include stocks in elevators attached to flour mills, crushing plants, and other processing facilities. * Revised.

Primary receipts (1,000 bu.) of soybeans at important interior points for week ending:

	Oct. 23	Oct. 30	Nov. 6	Nov. 13
Chicago	2,937	3,721	1,812	1,139
Duluth	—	—	2	—
Indianapolis	575	611	190	174
Kansas City	738	1,176	207	233
Milwaukee	—	—	1	—
Minneapolis	716	1,019	409	749
Omaha	80	126	31	27
Peoria	132	110	46	23
Sioux City	12	15	38	14
St. Joseph	250	230	174	102
St. Louis	531	627	174	174
Toledo	793	993	270	270
Wichita	28	102	163	28
Totals	6,792	8,730	3,517	2,933
Last year	10,927	5,257	2,633	1,482
CCC-owned stocks of soybeans in Chicago	1,598	1,259	1,151	1,463
Total Chicago soybean stocks	9,447	11,734	13,031	13,541

PRICE SUPPORT. Quantities of 1959-crop soybeans put under support through October 1959 compared to totals of 1958-crop soybeans put under support through October 1958, reported by Agricultural Marketing Service (bushels.)

Warehouse stored loans	Farm-stored loans	Purchase agreements	Total put under support through Oct. 31, 1959	Total put under support through Oct. 31, 1958
4,941,121	570,470	30,681	5,542,272	23,006,953

Of the quantities of 1959-crop soybeans put under support, farmers had repaid loans on 7,062 bushels of soybeans. Through October 1959, farmers had resealed 13,792,869 bushels of 1958-crop soybeans for another year through 1960 loan maturity date.

SUPPLY, DISTRIBUTION of soybeans, 1957-59, reported by Agricultural Marketing Service (1,000 bu.)

	Supply							
	Stocks at beginning of period[1]							
Year and quarter	Farms	Terminal markets	CCC[2]	Processing plants	Interior mills[3]	Total stocks	Production	Total supply
1957-58								
Oct.-Dec.	3,623	3,539	0	1,493	1,242	9,897	483,715	493,612
Jan.-Mar.	189,935	23,993	0	78,863	89,243	382,034		382,034
Apr.-June	117,445	17,977	0	57,983	62,301	255,706		255,706
July-Sept.	26,961	10,839	0	36,194	33,778	107,772		107,772
Season						9,897	483,715	493,612
1958-59								
Oct.-Dec.	2,191	2,635	2,012	4,649	9,596	21,083	574,413	595,496
Jan.-Mar.	199,925	42,767	1,954	98,610	126,005	469,261		469,261
Apr.-June	124,623	26,839	1,895	73,993	95,956	323,306		323,306
July-Sept.	35,444	16,263	102	44,883	60,310	157,002		157,002
Season						21,083	574,413	595,496
1959-60								
Oct.-Dec.	16,960	7,550	873	4,217	32,753	62,353	529,793	592,146

	Distribution				
Year and quarter	Used for seed	Crushed at mills	Net exports[4]	Feed and residual[5]	Total
1957-58					
Oct.-Dec.	....	85,728	39,213	—13,363	111,578
Jan.-Mar.	....	89,045	14,898	22,385	126,328
Apr.-June	29,357	92,391	16,854	9,332	147,934
July-Sept.	....	86,641	14,542	—14,494	86,689
Season	29,357	353,805	85,507	3,860	472,529
1958-59					
Oct.-Dec.	....	101,443	38,038	—13,246	126,235
Jan.-Mar.	....	106,663	22,738	16,554	145,955
Apr.-June	27,134	104,127	27,510	7,533	166,304
July-Sept.	....	89,000	20,072	—14,423	94,649
Season	27,134	401,233	108,358	— 3,582	533,143

[1] Oct. 1 stocks in all positions include only old crop soybeans. [2] Owned and stored in bins or other storage owned or controlled by CCC. Additional CCC-owned grain is included in other positions. [3] All off-farm storages not otherwise designated. [4] Exports minus imports, which are negligible. [5] Mostly quantity fed, but includes waste, loss, and statistical errors in estimates.

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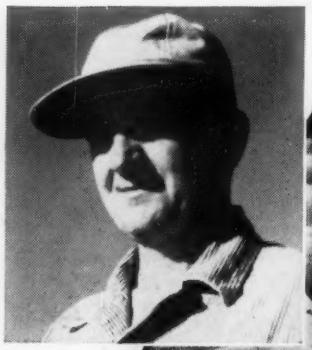

Thomas Dobrinick, (pictured) Belleville, Ill. 43 gilts saved 368 pigs. Total feed cost of 10¢ per pound of pork sold. This figure includes all feed for breeding herds as well as market hogs.

William Seiler, Carson City, Mich. 7 crossbred gilts raised 70 pigs to market on Wayne Brood Sow Supplement, Tail Curlers, Pig Balancer and Hog Balancer. Lbs. Feed per Lb. of gain, 3.01. Feed cost per Lb. of gain, 8.146¢. *(Includes grinding and mixing and grain at 2¢ per lb.)*

Midwest Swine Testing Station. 16 boars on Wayne Feeding program averaged 1.92 lbs. daily gain with 3.06 lbs. of feed per lb. of gain. Reached 200 lbs. at an average of 143½ days of age.

Jim Gimerling, Hanna, Ind. Two groups of 40 and 30 head topped Chicago market. Both groups fed out in just over 5 months. "Wayne Feeds have given me everything I could ask for—big healthy litters, fast, economical gains, plus a No. 1 finish."

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